

**MARINE CORPS**  
**GAZETTE**



## This Month's Cover

☛ IF HE IS ALIVE TODAY, the Soviet soldier on the cover probably has only the vaguest idea of the force which he and his 3,000,000 comrades in arms now exert on the balance of world power. As part of what Hanson Baldwin calls "... perhaps the world's last great mass army," he is also representative of the heterogeneous character of Russian man power. Though joined under a common banner, Russian soldiers are sometimes as strange to each other in language and customs as any one of them would be to, say, a U. S. Marine from Little Rock, Arkansas.

How strong is Russia? This country's foremost military analyst gives his "guestimate" in this issue, beginning on page 8.

### THE MARINE CORPS GAZETTE

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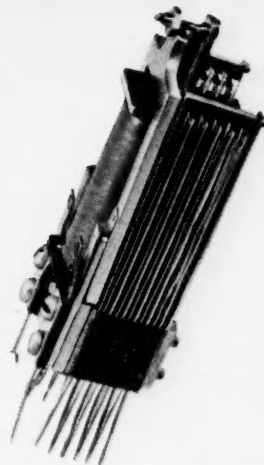
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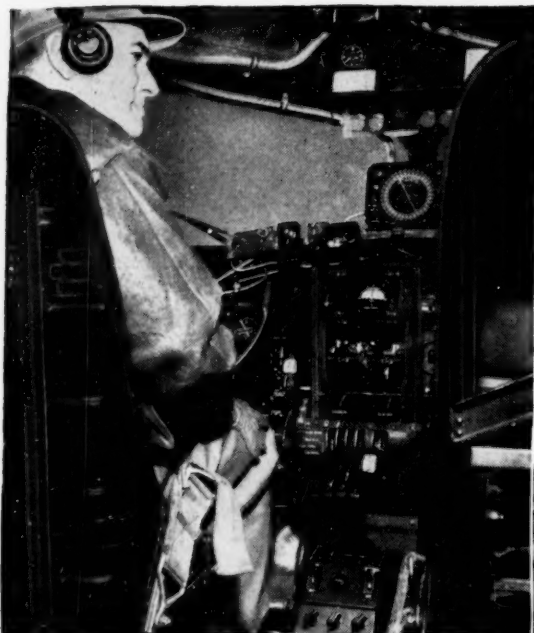
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# Passing in Review

BOOKS OF INTEREST TO MARINE READERS

## USN History . . .

A HISTORY OF THE UNITED STATES NAVY—Commodore Dudley W. Knox, USN, 704 pages, illustrated, index. New York: G. P. Putnam's Sons. \$7.50

This is an unusual book on naval history because it includes more than the stories of naval battles. To be sure, there are long accounts of naval actions. For example, five entire pages are devoted to Capt Porter's report of the bloody but unsuccessful engagement between his ship, the *Essex*, and the Royal Navy's *Phoebe* and *Cherub* off the Valparaíso coast in 1814. The author frequently resorts to extremely long quotations from official documents. Because such long quotes are well chosen, both for their importance, as well as readability, they add authenticity to the text and indicate the vast amount of research accomplished by the author.

But this book is more than a usual history. Not only is it an account of what our Navy has done, but it is a thoughtful analysis of the "why" of naval activity throughout the course of our national history. Each important aspect of naval activity is examined and explained in relation to contemporary economic and political conditions, both foreign and domestic. By so effectively considering the politico-military aspects of our naval development, Commodore Knox has produced a study of sea power that rates a high place in naval literature.

Actually, few of our current writers on sea power have demonstrated that they possess as thorough an understanding of the meaning of the term as does Commodore Knox. In way of comparison, this book has much of the fine quality of historical analysis that made Fletcher Pratt's *Empire and the Sea* (Henry Holt, N. Y.) a penetrating study of the relationship of sea power to military and political developments. It also compares favorably, particularly with respect to the theoretical discussion of sea power, to Adm Sir Herbert Richmond's *Statesmen and Sea Power* (Oxford University Press, London). As a study of sea power and its relation to our national history, this book is far superior to *American Seapower Since 1775* by Wescott, and others (Lippincott, N. Y.).

The reader will quickly note the frequency with which the author includes works by Mahan among the lists of "Principal References" that follow each chapter. Usually a writer on historical subjects lays himself open to valid

criticism when such heavy reliance is placed upon one source of material. However, in this instance the author certainly should not be so criticized. Mahan is far more than a routine source of information. No naval writer, past or present, has excelled Mahan either with respect to the carefulness of his research, or the validity of his observations.

As the author so clearly points out, the basic economic and geographical characteristics of this country made it fundamentally dependent on naval power. Those who are interested in the strategy of the Revolution will enjoy the able manner in which the author develops the thought that the Revolution was a naval war of the first magnitude, and that victory was in large measure the direct result of Washington's unsurpassed understanding of this nation's dependence upon naval power.

Some students of the Civil War have long been of the opinion that the land campaigns have been over-emphasized in relation to the naval aspects of that war. Commodore Knox has done much to rectify this rather general error of Civil War historians, as he skillfully points up the inherently naval character of the conflict. The author's discussion of the decisive influence of Federal sea power establishes both Lincoln and Grant as students of the role of sea power as well as masters of its application. All of which leads to the inescapable conclusion that today, as in the past, success of American arms is in a large measure dependent upon the effective application of our national sea power, and an appreciation of the indispensable role of American sea power is a prerequisite for all officers, regardless of branch of service, who profess an understanding of this nation's strategic position.

The portion of the book pertaining to the World War I and II is an effective rebuke to those who so ill-advisedly have minimized the need for naval forces in modern war. Justifiably convinced of the indispensability of naval forces, the author has no reluctance in disputing those who have deprecated U. S. naval power. His courage in this respect is demonstrated by the fact that the fallacious theories of MajGen William (Billy) Mitchell are singled out for refutation. Ably contending that "Mitchell's whole theme of air power vs. sea power" has been proved by actual war experience "as almost entirely wrong," Commodore Knox proceeds to exhumate some of the foremost Mitchell theories for the exposure they so well deserve.

No study of American sea power could be complete without considering Mitchell's attack upon the Navy, for Mitchell, probably more than any other individual, has been responsible for creating the biased and dangerous anti-naval attitude that pervades so much current military writing.

Following are a few Mitchell quotes that the author selected to demonstrate the fallaciousness of Mitchell's theory of the decadence of U. S. naval power: "If a naval war were attempted against Japan, for instance the Japanese submarines and aircraft would sink the enemy fleet long before it came any where near the coast . . . Airplane carriers are useless instruments of war against first class power. . . .An attempt to transport large bodies of troops, munitions and supplies across a great stretch of ocean, as was done during World War I from the U. S. to Europe, would be an impossibility."

Throughout the book the author evidences a firm understanding of the uniquely American "concept of the balanced fleet" that governs the organization of our naval forces. Marines, in particular, will be pleased to find a writer who senses the fundamental importance of creating fleet marine forces within the structures of our fleets. Marines will also derive much satisfaction from the author's tribute to U. S. Marines as a major influence in the development of U. S. amphibious doctrine. Appreciation of such a contribution by the Marine Corps is all too often missing in naval writing today. So it is all the more reassuring to realize that an author of Commodore Knox's stature accords the Marine Corp's amphibious efforts prominent recognition in an important naval history. JDH

### Wings Over the Empire . . .

THE AAF AGAINST JAPAN—Vern Haugland, 515 pages, illustrated. New York: Harper and Brothers. \$5.00


*The AAF Against Japan* is exactly what its book jacket sub-title says, "The story of all the Air Forces of the AAF whose target was Japan." It relates in some detail many, if not most, of the separate air actions of all those Forces. It relates some of the "big picture" aspects of the Pacific War, particularly those of the land-based air forces, although many of the related factors of the employment of Army and Naval forces are elided. It touches upon some of the evaluation of the Army Air Force efforts.

It might be said to be a compromise; a combination of the college annual approach, in which there is a detailed chronology of events, thumb-nail sketches of leading characters, and appropriate homage to heroes (in this case they are really heroes—homage was well-earned by these and those excluded by limited space); the broad operation history in which causes and effects are traced;

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and the historical analysis in which lessons are derived from past experience.

Of the combination, the first approach is by far the best part of the book, and it is indeed well done. Many periods of action by each of the seven Air Forces involved are covered almost plane by plane. Former members of those Forces can find here most of the events of those crowded days, and have recalled to their memory the names of many who took part in gallant actions. The selections from diaries and informal letters or reports on these phases has been well-done. In these paragraphs of the book it can be easily seen that the author has taken wise advantage of the full facilities of the personnel narratives division of the Air Forces Public Relations office which he says were placed at his disposal. That he was permitted to exercise freedom of judgment is shown by the fact that many of the selections are critical of various aspects of the campaigns.

The broad operational approach is less well-done, and naturally so. The mass of most interesting detail tends to distract the attention, as well as to obscure the broad framework supporting the detail. Also, as is perfectly natural in a story of the Air Forces, the actions and decisions which resulted in, and caused, a coordination of the efforts of all forces attacking Japan, took second place to the air aspects of those events.



This is particularly apparent in the sections dealing with the problem of using B-29s against Kyushu. The desire of the Air Forces not to interrupt for a few days their long campaign against the Japanese economy is stated in detail. But the necessity for such a short interruption in order to further the national policy of securing a spring-board for the invasion of Japan is not as clearly shown. The situation that existed is confusingly presented in that the chronology of events in the Kamikaze attacks on the Okinawa forces is, at the least, not clearly shown.

The historical analysis is probably the least well-done. This too is natural. Such analyses are difficult even after all of the factors are known. It cannot as yet be said that all of the factors, if known, are completely understood. In addition, the validity is usually increased by distance, both in time, and in participation in the events themselves. To use as an analysis the opinions of those who took part in shaping events frequently only leads to justifying the events.

This phase of the book has some curious aspects. It is apparent that the author wanted to avoid any indulgence in some of the unfortunate controversies over actual performance, or results of performance, in the Pacific War. However, since there are complete, verified figures now available it is unfortunate that he did not make use of them.

A prime example is in the story of the battle of Midway. Here he makes a running account in detail of the action of the B-17s from the claims of the pilots who flew the missions. He summarizes the land-based air part of the battle by quoting from the 7th Air Force Summary claiming 22 hits on Japanese vessels. He mentions that the Navy was skeptical of the claims and then gives a quotation from a Japanese officer as to the effects of the Battle of Midway on their organization.

The curious aspect of the account is that he did not use the findings of the U. S. Strategic Bombing Survey. After examination of Japanese reports, and interrogations of Japanese survivors the Survey stated that errors existed in the B-17 claims of hits, and that actually all hits were made by naval aircraft. The wartime controversy was settled in this report by the Bombing Survey and the settlement could well have been used in this account. It in no way detracts from the gallantry of those who participated in the effort at Midway.

The author, Mr Vern Haugland, has turned out a book which, although it is subject to some criticism, will be valued by many for its detailed descriptions of the courage, resourcefulness and daring of the men of the Army Air Forces. He is personally well qualified by experience for such descriptions, since he covered the air aspects of the Pacific War from almost the start to its very end as a news correspondent.

SRS

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# The Marine Corps Gazette

THE PROFESSIONAL MAGAZINE FOR UNITED STATES MARINES

JULY 1948

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## This Month and Next

✻ AUGUST promises to be an interesting issue for GAZETTE readers. *Strengthen the Beach Assault* by LtCol Arthur J. Stuart is one of the best pieces of tactical thinking we have seen in a long time. *Beachheads of World War II* is one of Fletcher Pratt's characteristically thorough articles. *Lisbon Interlude* is something a little different for the GAZETTE—it reveals one Marine officer's shenanigans with the Gestapo in the nominally neutral Portuguese capital.

*Leadership and Fear* is by LtCol R. C. Williams, Jr., USA, and probes further into the psychology of the

fighting man. *Guided Missiles* are explained in layman's language by Lt Robert E. Walton—he served as a Navy technician during the war.

Our background intelligence series moves to the Orient with *The Netherlands Indies; Crossroads of the Orient* by Ronald Stuart Kain, the noted editor and writer. *Stalin on War* by LtCol William R. Kintner, USA, indicates that in the Soviet, the Russian premier is rated right up there with Clausewitz and Napoleon as a military mentor. Baseplate McGurk returns with some choice remarks concerning the problems of a *Defense Counsel*.



# How Strong Is

☛ SOME ANSWER THAT SHE IS A COLOSSUS WITH FEET of clay; others retort that her military power is that of a steamroller—irresistible. Somewhere between these extremes lies the real answer, an answer of great importance to the future history of the world.

What follows is an attempt—a layman's G-2 attempt to answer this question in a calm, objective and factual manner. The data and inferences here presented—first published in different form in *The New York Times*—represent a compilation of estimates collected from numerous sources—military and nonmilitary. This data has been checked as far as possible but the author emphasizes that this report is an *estimate*—in some of its phases, particularly those relating to production statis-

tics, a “guestimate”—and *not* an exact statistical statement. Like all things east of the “Iron Curtain,” mystery and doubt obscure the details of Russian military strength, and this compilation must be judged by the reader even more critically than he would evaluate a G-2 estimate in combat.

## 1—The Russian Budget

☛ THE 1948 BUDGET OF THE SOVIET UNION, as explained to the Supreme Soviet last January 31, is the largest in Russian history, but only about 17 per cent of it—or 66,000,000,000 rubles—was earmarked for direct military expenditures, according to the available published figure. This sum represented a reduction—ostensi-





# Russia?

ble or real—of some 2,500,000,000 rubles from actual military expenditures in 1947.

It is difficult to translate these sums into American figures, for there is no real comparative yardstick. The official exchange rate is 5.3 rubles to the dollar, but this does not represent the real value of the dollar in Moscow. The diplomatic exchange rate—before the recent devaluation of the Russian currency—was about eight rubles to the dollar, but this, too, does not give a fair picture of Russian military preparations translated into dollar terms. For the ruble is the “fiat currency of a totalitarian government” and an exact comparison is impossible. Some of our experts in uniform have estimated however, that the 66,000,000,000 rubles earmarked for the Soviet

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By Hanson W. Baldwin

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Ministry of the Armed Forces in 1948 represents only 62 per cent, or perhaps less, of the *identifiable* items in the Soviet budget actually utilized for military purposes. A compilation of such identifiable items leads them to the conclusion that—at the official exchange rate of 5.3 rubles to the dollar—the Soviet Union will spend more than \$20 billion this year for military purposes. They add that Russia is spending “at least twice as much” as the U. S. is spending (or was spending before the President’s augmented national defense program was proposed in his famous St Patrick’s Day speech in March). These conclusions seem distinctly debatable, especially since no completely satisfactory common denominator between ruble and dollar is possible.



But the Russian budget does provide irrefutable evidence:

(1) that Russia is spending very heavily for military purposes, and

(2) that her direct and published expenditures for military purposes are greatly increased by indirect and concealed items.

Some of these latter are worth itemizing. The Russian satellite countries, for instance—specifically Czechoslovakia, Yugoslavia, Hungary, Rumania, Bulgaria and North Korea contribute sizable sums (in money and in kind) for the maintenance of elements of the Soviet Army outside Russian frontiers and for support of military and training missions, etc. More than \$1,500,000,000 (at the official exchange rate) go to ministries—other than the Ministry of National Defense—for military or paramilitary purposes, including shipbuilding. Most military construction work in the Soviet Union is done by the slave labor battalions of the Ministry of Internal Affairs; at least \$1,000,000,000 for such construction (including purely military projects, highways, etc.) is allocated for these purposes. This sum represents far more construction work, however, than it would in the United States, since the bulk of the labor is done by Soviet Russia's 8,000,000 to 20,000,000 slave prisoners, most of whom receive little, if any, pay. Other amounts go to Osoaviakhim, which attempt to give premilitary and civil defense training to every person in the Soviet Union. Identifiable items for research total at least half a billion, with major additional sums—including a great unknown allocation for atomic research—carefully concealed.

These figures indicate clearly that Soviet Russia is allocating from 20 to 40 per cent of her total budget to direct and indirect military costs.

But more important than rubles spent is what these expenditures are able to purchase in Russia in terms of armed strength.

## II—New Weapons

✿ THAT RUSSIA IS MAKING a major effort to produce the atomic bomb there can be no doubt. That she has not yet been able to do so, there can be little doubt. The Finletter Commission, "playing safe" as responsible officials must do, put the earliest date at which Soviet Russia might have atomic bombs "in quantity" at 1952, but most of our scientists and engineers think it will take Russia at least until that date to produce even *one* bomb. No precise prediction is, of course, possible, but it seems probable that sometime between 1950 and 1957 Russia will produce her first bomb, and that she will not have bombs numbered in a large two, or a small three, figures, until 1960 or later. We are likely to retain our atomic lead for quite a long time, but it will be small comfort after Russia has acquired a number of the bombs. The limiting factor in Russian atomic development is indus-

trial plant and engineering "know-how;" the basic scientific "secrets" are well known to all nations. Availability of raw materials is also likely to be a major factor, since the United States now has a virtual "corner" on most of the *known* rich sources of uranium ore. Power is another limiting factor; atomic fission requires major power sources (at least in one of the easier processes of "manufacturing" fissionable material) and Russia's potentially great power sources are largely undeveloped.

In the development of missiles, the Russians are benefitting from German experience and the help of large numbers of German scientists and engineers. The V-2 factory at Nordhausen, a great underground plant and the component parts for perhaps 1,000 to 2,000 V-2s, lies in the Russian zone of Germany; so does Peenemuende, the German research and development center. The Russians, it should be emphasized, were utilizing artillery rockets long before we were and their solid fuel (or relatively short-range) rocket is technically good. Somewhat backward in radar development, the Soviets are probably having trouble with guidance mechanisms. Nevertheless, some reports, completely unconfirmed, indicate that the Russians have succeeded in extending the range of the V-2 type rocket to about 600 miles, which if true would mean they had achieved ranges we have never yet attempted. It is virtually certain, however, that all of their long-range missiles are good for area targets only; no nation has yet developed guidance mechanisms precise enough to insure pinpoint accuracy.

Little is known about the Russian development of biological agents or poison gas. In both fields, however, the Soviets benefitted from Germany and Japan. A Japanese biological warfare factory was seized by the Russians in Manchuria and that factory's methods of producing anthrax and other disease agents is undoubtedly known to the Russians. Vast quantities of the German "Tabun" or "Green Ring Three" series of gases also came into Russian possession. Basic Russian work in both these fields was well advanced prior to the war; we must assume, therefore, that the Soviets have absorbed and advanced beyond the German and Japanese wartime developments.

### III—The Army

❖ DESPITE THE POST-WAR Russian interest in new weapons, the Soviet Army, essentially a great mass army of foot-slogging "moujiks" (peasants), is still the backbone of Russian military strength. The tremendous geographical expanse of Soviet territory and Russia's position in the Eurasian heartland emphasizes in the Russian mind the importance of the ground army, and all her past experience of war reenforces this emphasis. A ground army concept, therefore, still dominates Russia's strategical thinking.

There are, in peacetime, six major military districts





or "defense zones" in Russia, with an army assigned to each. These armies are supposed to be more or less autonomous and the logistical organization of each is linked closely to the specific Soviet industrial area around which the army is grouped.

The zones, armies and their commanders—insofar as they are known\*—follow:

First: From the Murman Coast to the Baltic Coast—Northern Army, based on the Leningrad area; Marshal Klementy E. Voroshilov, commanding.

Second: From the East Prussian area southward (including Germany, Austria, and Poland)—Western Army, based on the Minsk area; Marshal Konstantin Rokossovsky, commanding.

Third: Southwestern USSR, including the Balkan-occupied areas—Southern Army, based on Odessa; Marshal Georgi K. Zhukov, commanding.

Fourth: Caucasian—Black Sea area—Caucasian Army, based on Tiflis; Marshal Ivan Bagramian, commanding.

Fifth: Turkestan Army, based on Tashkent and Frunze—Marshal Semyon Timoshenko, commanding.

Sixth: Far East—Lake Baikal to the Maritime Provinces—Far Eastern Army, based on Chita and Vladivostok; Marshal Rodion Y. Malinovsky, commanding.

These six armies are divided into an estimated 175 divisions, plus other divisions unassigned to armies—a total (including MVD troops) of perhaps 180 to 195 divisions. The grand total of perhaps 3,000,000 men includes 450,000 well-equipped MVD (or Ministry of Internal Affairs) troops, the politically elite soldiers of Moscow who correspond roughly to Hitler's SS units. They are organized in at least fourteen divisions, some of them motorized or mechanized, each supported by its own squadron of planes.

Of Russia's 3,000,000 men, about 1,000,000 are professional long-term volunteers; the rest are conscripts who serve at least two years and are then periodically replaced by new classes of 19-year-old draftees.

The Russian Army is believed to have—including the MVD units—about twenty-seven armored divisions, of which some fourteen are fairly well equipped.

These figures in this writer's opinion make the Russian Army far more formidable on paper than it actually is and they require explanation. The Russian division is considerably smaller than the American; it numbers 10,180 men in an infantry division. Estimates of the organization and strengths of Russian divisions differ widely. Gen Omar N. Bradley, Chief of Staff of the Army has stated that the Russians have 175 divisions up

to full or 80 per cent strength, and other Army leaders have put thirty-four of these divisions outside of the Russian frontiers in occupied Europe. Other observers, however, believe that many Soviet divisions are down to 5,000 men and that others exist only in cadre form or well understrength. One reliable estimate is that there are no more than forty to sixty divisions at full strength. It is estimated however, that Russia could mobilize 100 full strength divisions and put them in the field in 30 days.

The bulk of the Soviet divisions are either in occupied Europe or in Russia west of the Urals. Some 550,000 troops—perhaps more—are in Germany, Poland, the Balkan and Danubian areas, and about 1,300,000, organized in 85 full strength, below-strength, or cadre divisions are in Russia west of the Urals. Five divisions—75,000 men—are reported in the Korea-Port Arthur, and 25 more—375,000—in the Far East, east of Lake Baikal. The rest—about 300,000 men—are in the Turkestan-Middle Asian area.

The Russian division—though smaller than our own—has considerable firepower, although it does not equal the firepower of our divisions. Antitank weapons and 76mm howitzers—the latter weapon light and capable of being manhandled—are used in the infantry regiment and are always placed well forward for direct fire. Artillery support is strong, the Russian artillery always has been good and the Russians believe in its mass use, with guns supplemented by rocket batteries. The artillery components of some typical Russian divisions follow:

	howitzer 76mm	Number of Guns gun 122mm	howitzer 122mm	howitzer 152mm
Rifle (Infantry) Division.....	24	—	24	—
Mechanized Division .....	36	—	24	—
Cavalry Division .....	24	—	—	—
Artillery Division .....	72	12	48	24

Notable in the Russian Army is the grouping of artillery in divisional units, which can be used en masse and concentrated to back up a particular sector or can be dispersed in smaller units. It is estimated that the Russians maintain four artillery divisions in their peacetime army in addition to the artillery that is an integral part of the infantry and other type divisions.

Russian equipment is on the whole good, and this is particularly true of their tanks, which are well armored and very heavily gunned (some mount the 122mm gun), their artillery and some of their small arms. The Russians first introduced the circular bed plate for mortars, a design now adopted by this country, and their artillery rockets are excellent.

Their army, however, is not motorized as ours is. Some of the tank brigades and other crack units are completely motorized or mechanized, but the Russian Army (as was the German Army) is essentially an animal-drawn "outfit" and an army of foot soldiers,

\*There is some doubt about the identities of the commanding officers of these armies. Marshal Zhukov, for instance, once out of favor with the Communist hierarchy because of his friendship with Eisenhower and supposedly "exiled" to Odessa, has been seen recently in Moscow. He may therefore, have been returned to Communist favor, and someone else may be commanding the Third Army.

brave, hardy, wild and in some cases only semi-civilized and half-literate. A major advantage, similar to that possessed by the Japanese, is the Russian lack of impedimenta and auxiliary services and the Russian ability to live off the country. There is no USO or its equivalent; the political commissar is the major "auxiliary" in the Russian Army and he fights. The Russians utilize any and all sorts of power—chiefly man's muscle power—to supply and transport their army; school buses, wagons, carriages, trucks, horses, mules—and a considerable number of cavalry units—are mixed together more or less heterogeneously but effectively. Administrative details are often conspicuous by their absence; there is no graves registration service and lower rank casualties are not reported.

Morale varies from very poor to excellent. There have been numerous desertions from the Russian Army in Europe, including even ranks as high as lieutenant general, but these desertions represent only a small fraction of the vast Soviet manpower—which, in the military age brackets—probably numbers from 18,000,000 to 24,000,000 men. This vast Russian reserve strength can be augmented in case of need by women, great numbers of whom were used in various capacities in the Soviet Army during the war. However, it is probably well beyond Russia's capacity to mobilize, supply and maintain an army of this size; probably 10,000,000 to 14,000,000 men under arms would represent her maximum mobilization. The Soviet industrial machine and transportation system probably could not support a military force larger than this number. Russia, moreover, requires a greater number of "Home Front" workers than this country due to the smaller worker productivity and the lesser amount of power behind each worker.

Russian military leadership, tried in war, is good, and staff work—though in no sense precise—is effective. The Soviet marshals are unhampered by the restraint of death; life is cheaper in Russia than in the United States; large casualties have lesser meaning. This Oriental fatalism and disregard for casualties, however, has a tendency to freeze tactical conceptions; victory to the Soviet general means greater mass and greater power—a slugging contest. The strength of the Russian Army is essentially the strength of its size; it is, perhaps, the world's last great mass army.

#### IV—The Air Force

☛ THERE IS FAR LESS CERTAINTY about Soviet concepts of air power. Until the end of the war the Russian air force was clearly a close-support air force—flying artillery. It knew little and apparently cared little about strategic bombing—perhaps for political as well as military reasons. It flew large numbers of planes, primarily low-altitude attack planes, light bombers and day fighters and fighter bombers, but the intricacies of night fighter defense and the use of heavy, long-range bombers were

a mystery to it. Indeed, even until the days when the Germans were making their last stand on the Oder, the Luftwaffe, though terribly outnumbered, managed to muster a local air superiority on the Eastern Front whenever it was required.

But there are indications that war-time Soviet concepts of the use of air power are changing.

The Russian air force today, like the Russian Army, is distinguished for its size. It probably operates about 14,400 planes. There is some difference of opinion about the type of these planes; some estimates indicate that all of the 14,400 are combat types. More conservative and probably better informed thinkers believe only about 8,200 are combat planes; the rest are military transports, trainers, etc. This large operating air fleet represents, however, only a part of Russian air power; there are probably at least 10,000 other planes—mostly warbuilt types—in reserve or in storage. There are about 400,000 to 600,000 men in the air force, a sizable number long-term professionals, the rest three-year conscripts.

The Russian aircraft industry is sizable—though not comparable in potential to our own. Russia's maximum output of planes during the war, according to Stalin's announcements, was more than 40,000 annually, most of them of the single-engined type. Today, a "guestimate" (and it is only that) of Russian aircraft production is 6,000 to 12,000 planes a year, perhaps 500 of them four-engined bombers, 1,000 to 2,000, jet types. This "guestimate" should be highly qualified. In 1939 when Hitler invaded Poland and the world stood in awe of the Luftwaffe and the German Army, the Reich produced—we now know—only 8,295 aircraft of all types; in 1944 the German aircraft production of 39,807 planes approximated the figures with which Germany was credited by the rest of the world at the war's beginning.

There are two—or rather three—trends of particular importance in the post-war Russian air force. One appears to be an attempt to develop a concept of strategic bombing and to build up a force of long-range bombers. Several of our B-29s landed in Siberia during the war and were retained by the Russians. Russian copies of this type, very similar to our own, but somewhat longer and narrower and perhaps lighter than our Boeing-built bomber, have been seen in quantity in Russia. More than fifty of this type seen at one airfield, and others identified almost simultaneously at other airfields indicate that Russia had, late last year, perhaps 175 of these planes. It is even possible—though improbable—that she may have manufactured as many as 1,000. Two hundred to 400 is more probable. How the Russians expect to use these long-range bombers is not clear. The Soviet Air Force has been organized in six air armies, one to support each of the six ground armies. A report—unverified—has indicated that the Sixth Air Army, formerly in the Far East, is being reorganized into a long-range



Russian military leadership, tried in World War II, is good. Staff work, if not precise, is effective.

strategic striking force, similar to our Strategic Air Command.

A second post-war trend of major importance is the Russian development of jets and their parallel attempt to develop radar. At least six—some say nine—different types of jet planes have been seen in the air in Russia, and at least one of our bombers operating off Alaska not far from the Siberian wilds has been “buzzed” by Russian jet fighters. The Russians have drawn heavily upon German design and German experience in their jet construction and some of the better German designers and technicians are working under Russian direction. One of the Russian jet types bears considerable resemblance to the German wartime Me-262; another type that has been flown has a swept-back wing; still another looks something like our P-84. Whether the Russians have yet broken through the sonic barrier (as we have done with the experimental plane the XS-1, which, incidentally, owed much to German design) is a closely guarded secret, but it seems clear their jet design and development is advanced. They have benefitted not only from German engines but in the past 12 months they have received at least 35 British “Nenes,”\* probably the best operating jet engine in the world today. The growing number of jets the Russians are producing, backed by a very large number of propeller-driven fighters makes the Russian day fighter force formidable in quantity and quality. The Soviet air force is thought to be weak in both numbers and technique in night fighters, and its warning systems and fighter control are handicapped by what is believed to be a backward radar

\*These were sent to Russia under the terms of a war and immediate post-war agreement. No further shipment of this nature, as far as is known are planned.

development and production system. One of the secrets sought by the Russian espionage ring in Canada, it will be remembered, was radar, and in this branch of science the Russians cannot hope to “milk” German knowledge to too much advantage, since the Germans at the end of the war were probably not quite “up” to either Britain or the United States. Nevertheless, the cruiser *Milwaukee*, turned over to the Russians in 1944, had the then latest types of Navy radar aboard and the Russians have made major efforts in the post-war years to develop a satisfactory radar system. The probability is that they have only partially succeeded.

A third post-war trend of significance really finds its roots in war days. The Russian air force maintains many military transport planes; one estimate is that they operate some 2,000 transports, most of them of the short-range C-47 type. This great transport fleet is believed to be complemented by a considerable airborne army; one estimate—probably too large—is that the Russians have a trained airborne army of paratroopers and supporting personnel numbering 100,000.

The Russian Air Force today is, therefore, impressive in numbers and probably the quality of many of its individual airplanes is good. It is probably weak in air staff work, air logistics, and the concepts and technique of strategic bombing. It, nevertheless, possesses some planes of the C-54 and B-29 types which, theoretically at least, should have range enough to reach north-western parts of the United States from bases in Kamchatka. Its day fighter strength is particularly impressive.

#### V—The Navy

THE SOVIET NAVY is the weakest of the Russian armed forces, but Premier Stalin has promised to make it “one of the greatest” navies of the world.

The Russian Navy has a large number of men, many of them apparently organized in Marine, or Naval landing battalions for combat service ashore. Amphibious techniques are not believed to be very well developed, but large numbers of Red Fleet sailors served with the Russian Army ashore during World War II. Some estimates indicate the Russian Navy numbers 500,000 to 600,000 officers and men; others are half of this figure. The truth probably lies somewhere in between, but closer to the larger than to the small, figures.

The Russian Navy's surface strength is almost inconsequential, except for coast defense types. The Russians have no aircraft carriers; one—the *Krasnaya Znamya*, has been under construction for years and probably will not be completed—so slow is the pace of naval shipbuilding in Russia—for years to come. The bulk of the damaged and unfinished German carrier, *Graf Zeppelin*, came into Russian possession after the war, but apparently is good chiefly for scrap. There are three obsolete battleships, the best of them the former British *Royal*



*Sovereign*, built in 1914-16, and turned over to Russia during the war. A former Finnish coast defense vessel, with ten-inch guns is also in Russian possession and could be useful, as a monitor, in the Baltic. One battleship long has been reported as under construction, but progress does not seem to be appreciable and Russian efforts to secure large naval guns and armor plate machinery outside of Russia indicate the Soviets are encountering construction difficulties.

There are eight or nine Russian cruisers, including the old American *Milwaukee*, renamed the *Murmansk*, which was turned over to Russia during the war. Two new cruisers—of 8,800 tons, with nine 7.1 inch guns—are probably nearing completion and a German-built cruiser, in bad condition, is probably under repair. Russia has more than 60 destroyers, 30 destroyer escorts and a sizable fleet of torpedo boats, minesweepers, auxiliaries and icebreakers, many of them sent to Russia by the U. S. and Britain during the war.

Only in submarine strength does Russia appear to be fairly formidable today. The Russian submarine navy, even in pre-war days, was rather large—though not as large as pre-war Naval Intelligence indicated. Recently Secretary of the Navy Sullivan estimated the Russians had 250 submarines; other semi-official estimates put the estimate at 300. Still other semi-official figures put the total at 275, 250 of them operating types, 25 training submarines. About one-third of the 250 are said to be ocean-going; the rest small, coastal short-range craft. Still other sources believe the Russians have only 85 or 100 subs of all types. Actually, the largest and smallest estimates seem wrong; a safer "guess" is 150 to 200 submersibles of all classes, many of them coast defense types, or of obsolescent pre-war design. Russia has, however, some of the K-class of 1,400 tons displacement, built just before and during the war. She also acquired 10 completed German submarines including four of the Schnorkel-equipped, streamlined high speed, Type XXI, 1,600 tonners. Even more important the Russians took over in their zone of Germany component parts for perhaps 50 to 125 of the Type XXI, together with four submarine shipbuilding yards, the leading German experts on submarines and some 4,000 technicians. The Russians are known to be trying to assemble and put into operation a sizable number of this Type XXI U-boat (in addition to the four completed ones acquired by the surrender terms). How many is the great question mark. None of the newer and later Type XXVI, with a designed submerged speed of 25 knots, are in operation as yet, it is believed, although the Russians also seized blue-prints for this type. The Russian submarine navy, in other words, is potentially formidable, and it apparently has become, with German aid, a fleet submarine force, instead of merely a coast defense force. In this connection, Secretary of the Navy



**Soviet artillery support is modern and efficient. Methods and equipment compare with our own.**

Sullivan's recent remarks about foreign submarines operating off our coasts may be significant.

THE SOVIET NAVY, in other words, is not a high seas fleet; its surface vessels are capable only of limited coastal defense tasks in the Baltic, the Black Sea, the Arctic and the Sea of Okhotsk and of controlling those seas—with the major help of Soviet air and land power. But its growing submarine armadas, particularly aided by German designs which have revolutionized the whole art of anti-submarine warfare, are fast becoming far-ranging sea rovers which—like the German U-boats—might be able to attack maritime commerce in many parts of the world.

## **VI—The Home Front**

THE RUSSIAN "HOME FRONT" is preparing for war, but the aim is long-term—guns tomorrow instead of butter today. This does not mean that present Russian defenses are being neglected; they are not. Russia is maintaining large military forces—but forces that are in no sense large enough for major war—while simultaneously expanding her capital goods production, heavy industrial plant and transportation and communication industries. This is being done at the expense of the consumer; consumer's goods are—and will remain—if the Soviet's "Fourth Five Year Plan" is any criterion—conspicuous by their scarcity.

"The present five-year plan contemplates by 1950 basic industrial production and heavy industrial production . . . far above the pre-war level, while the output of consumer's goods in 1950 will exceed by only a little that of 1940," Abram Bergson, comments in an analysis of the Soviet's "Fourth Five Year Plan," in the June issue



of the *Political Science Quarterly*. Steel, coal, oil, electric power, chemicals, minerals, machine tools and transportation equipment as well as agricultural production are all stressed. The exact level of munitions production to be maintained during this period is unknown, but there is no doubt that the wartime level of munitions production has been greatly decreased in favor of a major expansion of industrial facilities. Stalin is authority for the claim that in the last three years of the war, Soviet factories averaged annually 30,000 tanks, 40,000 planes, 120,000 artillery pieces, 450,000 light and heavy machine guns, 3,000,000 rifles, 2,000,000 automatic rifles and 100,000 mortars—a claim impressive even if halved. If industrial facilities are increased as planned such figures as these will probably be greatly exceeded.

The expansion of industry is being planned with the atomic bomb in mind. Now industrial centers are being created east of the Urals, and even oil production, in the past concentrated in the Caucasus region, is moving into the interior. "Shadow" or standby munition factories are being constructed, and plans apparently contemplate the construction—well dispersed—of numerous small factory complexes, instead of one or two big centers.

Transportation also is stressed under the five year plan. Railroads in the west, damaged by war, are being repaired, particularly the rail links connecting the Donbas coal mines and the Krivoi Rog steel plants. The line from Omsk to Moscow is to be double-tracked, and a total of 4,200 miles of new trackage is to be laid, including an important, 2,400 mile "South Siberian" line from Kuibyshev on the Volga River to Taishet on the Yenisei. Some 7,000 miles of new road are planned; river transport—always important in the Russian economy—is to be expanded, and the Soviets hope to increase their merchant fleet by 600,000 tons by 1950, which will give them a total mercantile fleet of about 3,000,000 tons, perhaps the world's fourth largest.

As Harry Schwartz of Syracuse University has written in *Russia's Post-War Economy* . . . "Even after 1950

the USSR will continue its frantic effort to increase all aspects of industrial and military-economic strength."

Just how strong industrially Russia is today and how strong she will be tomorrow, it is impossible to judge precisely from the misleading and incomplete figures released by the Soviet Government. It is, however, probably true, as the Herter Committee of Congress (the House Select Committee on Foreign Aid) has stated, that Russia's *total* industrial output in 1948 is about as large as it was before the war in 1940. War-damaged regions in the West have not been able to reach their pre-war productivity, but new industrial areas behind the Urals and elsewhere are producing at a far higher rate. It would, therefore, "be incorrect to argue," the Committee states, "that the Soviet Union . . . is not now strong enough to undertake substantial military operations. . . ."

Russia's industry, however, in comparison with that of the United States is still a relative "pigmy." Even if she fulfills her first post-war Five Year Plan goal of 25.4 million tons of steel production in 1950, that production is 6,000,000 tons less than the U. S. produced in 1913.

Russian resources are buttressed in this push for power by German factories, German machine tools, German technicians, engineers and scientists. Some Nazi factories have been moved wholesale to Russia; others piecemeal; many are working in Germany for Russia.

This Russo-German combination is potentially formidable industrially and technically as well as militarily.

## VII—Satellites

THE NATIONS under Russian domination add a very considerable manpower to the Russian total. The satellite powers maintain a total of about 94 divisions, to which must be added the German Army, formed by the Russians from German prisoners-of-war. This army, primarily intended as a political force, may nevertheless be of importance militarily. Its exact size is a question mark; estimates vary from 75,000 to 1,000,000 men—the

latter undoubtedly too high. One recent estimate puts the total at 350,000—about eighteen divisions—but considerable doubt is cast on this by experts who believe the Russians-managed German Army is organized chiefly in “labor battalions.” This Army is officered by German officers and was formed with the assistance and guidance of the German Union of Officers and the Free Germany National Committee—both wartime propaganda and political organizations created by the Russians with the help of Marshal von Paulus, MajGen Seydlitz, and other German ranking prisoners taken at Stalingrad and elsewhere. Headquarters is supposed to be in Poland, north of the Pupa Marshes.

Most of the military forces of the satellite states are indifferently trained and equipped and morale is not too high. Yugoslavia's forces are perhaps the largest and best—though not well equipped. Her army, 350,000 to 400,000 strong, including some 60,000 internal security troops, can be expanded to 35 infantry divisions and two armored divisions (poorly equipped).

The Polish Army is also sizable and is probably more completely controlled by the Russian Army than any other of the satellite armies. Even the Balkan puppets—particularly Bulgaria and Rumania—are maintaining sizable forces, evading the peace treaties in doing so, by maintaining many para-military units—gendarmes; police, frontier guards; youth organizations; militia, and labor battalions. Czechoslovakia adds a small but well-equipped army to the total, and in the Far East the North Korean People's Army, a creature of the Russian occupation forces, is believed to number 200,000 to 300,000 men.

The satellite powers are strong in man power but weak in equipment, particularly in aircraft and shipping. Their navies are negligible, and their combined air fleets number no more than 2,000 planes, most of them obsolescent. This man power could be utilized effectively, however—as Germany used her satellites' forces—for labor and occupation troops and for limited combat service.

### VIII—Capabilities—Summary

✻ “THE ADVANCE of a Russian Army is something that westerners can't imagine,” Gen Manteuffel is quoted by B. H. Liddell Hart in his forthcoming book—*The German Generals Talk*.

“The soldier carries a sack on his back with dry crusts of bread and raw vegetables collected on the march. The horses eat the straw from the rooftops. You can't stop them like an ordinary army, by cutting their communications, for you rarely find any supply columns to strike.”

The Russian Army is, in truth, an armed horde, but its mass of men and equipment, its hardihood and Oriental disregard for life make it a powerful force.

It can always count too, on internal allies—allies who use the tactics of treachery and subversion—the Communist Fifth Column which exists in every country on earth.

It is a curious fact that this Army—despite its strength—sometimes seems obsessed by fortifications. Lines of trenches and field fortifications have been dug along parts of the 38th parallel in Korea which divide the American and Russian zones. On the Black Sea, facing East, the old Rumanian (and presumably the Bulgarian) fortifications have been rehabilitated and strengthened and coast defense guns as large as eight inches in size have been reported, guarding the Danube's mouths. In Germany, less well confirmed reports indicate the Russians may be constructing an outpost line along the Oder, with a main line of defense along the Vistula in Poland. One track of the double-track railroads that used to run from Germany eastward into Poland and thence into Russia has been torn up.

All of this could indicate a defensive strategy. The missing railroad rails more probably represent, however, post-war Russia's extreme need for rails to rehabilitate her own railroads, and the defensive positions probably demonstrate that curious mixture of fearful suspicion and arrogant strength which characterizes the Communist convert.

The capabilities of the Russian armed forces are immense, but today Russia's weak in two elements in which the United States is strong—long-range strategic bombing forces and sea power. The Russian forces probably have the capability of overrunning most of Europe quickly—one estimate gives them 45 days to the Skagerrack, the Channel and the Pyrenees—but at the water's edge they would halt. The Middle East might be conquered, some guess, in six months; Korea and China, to the Yellow River, in three.

This writer believes some of these estimates are much too brief; nevertheless, there is no doubt that the “heartland” of Eurasia already is firmly under Russian control and that the western “fringelands” could be overrun—as things stand now—quickly.

“War (conflict) assumes a total and permanent character” in the Russian estimation,” Ellsworth L. Raymond, writes in the March issue of the *United Nations World*. “Every act of the state and of its individual parts represents a tactical move to implement the strategic concepts . . . the whole nation is engaged in a permanent and total effort, maintaining its military might merely as a deterrent, or an implement of persuasion or to be used only as a last resort.”

To Communism, accustomed to the waging of “cold war” by political, ideological and economic means, the Russian armed forces are undoubtedly “a last resort.” But they are also a most powerful “ace-in-the-hole.”

US & MC



# The Hills, The Woods, and John Rifleman

By Maj Alan R. Cason

☛ TO MANY A RIFLEMAN AND BARMAN, IT SEEMS THAT he spent most of the last war sitting on a hill, "standing by." It probably seemed that way to a lot of lieutenants, too. In operations ashore, the sequence of events went something like this, for John Rifleman:

0500—Relieved from watch. "C" ration breakfast.

0600—An attack order of sorts is received. ("Continue the attack to the front" is its essence. This order may sometimes have designated an intermediate objective, line of departure, route to be taken, and formation. More often, the only concrete tactical information given was the objective.)

0700—All equipment gathered, pack on, rifle slung. Standing by in a clump of vegetation, or lying in position as a security element. Some small talk with George Rifleman and William Rifleman.

0800—Standing by. Pack has been taken off; leaning on rifle.

0815—"The Word" has changed. John Rifleman's platoon will be in support instead of in assault. No information as to assembly area, but it is assumed that it will be the present location. John Rifleman has not been told whether or not any members of his platoon have been assigned such duties as liaison, security, connecting files, reconnaissance patrols, etc. Via grapevine, he hears that the entire platoon may be used as a burial detail.

0830—"The Word" has changed again. John Rifleman's platoon will be in the assault. "Move out immediately." No order as to formation. The platoon moves out in its "usual" formation.

0845—The platoon is moving out in column. John's squad is at the rear of the column, so John is still standing by; he has not moved a foot yet.

0915—John Rifleman has now moved about 200 yards, and is standing by in a little patch of woods. No information as to the situation or why the attack is not moving forward.



0930—Still standing by. Some fire has been received. No information as to where it came from or what action is being taken.

1000—John's squad leader has disappeared; he returns, says the platoon will make an attack, and announces the route, formation, and objective.

1010—The attack begins. This is old stuff to John Rifleman and, aside from the fact that John gets shot at, the attack and assault go smoothly. The platoon takes its objective by fire and maneuver. John Rifleman takes up a defensive position on the objective to assist in holding it, and stands by.

1200—Still standing by. John Rifleman is in hearty agreement with the bird who wrote that war consists mostly of boredom.

The rest of the day, and most attacks, follow this pattern.

In defense, the situation was generally similar. John Rifleman's fire team leader or squad leader showed him a spot of ground and told him to dig in. He dug in. Later, his platoon commander, company commander, or battalion commander may have come around and told him to move his position. Otherwise, however, he was generally undisturbed except for enemy action or possible assignment to a patrol. Information about the situation in general, activities of patrols from his unit, security elements to the front, and units on the flanks came to

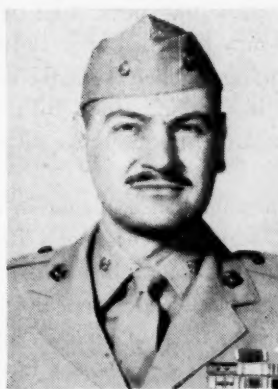


him primarily through the grapevine.

Most military men, both amateur and professional, agree that this is not an ideal situation.

Now take the case of training exercises. John Rifleman and his associates march or ride to a maneuver area, and a "field problem" begins. Except for the lack of enemy fire, the situation is similar to those described above. Pvt Rifleman stands by in an assembly area. He listens to a combat order. He stands by. He moves 200 yards and stands by again. He moves another 200 yards. He runs uphill in a simulated assault. He sits on top of the hill and simulates digging in. He stands by. The process is repeated for the remainder of the day, at the end of which he may be a thousand yards or more from the starting point, but little wiser.

Now contrast the situations described above with amphibious landings, either combat or training. While still aboard ship, John Rifleman is carefully schooled in the purpose of the landing, the enemy situation as it affects him, the objectives, scheme of maneuver, formations, and expected duration of the operation or exercise. In combat, he is generally abreast of the situation until the initial landing phase is over. In training, he generally maintains his interest until the initial landing phase is over. In spite of the danger attendant to a combat landing or the inconvenience involved in a practice landing, John Rifleman derives more basic satisfaction from each



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and in the battle for Tarawa as commanding officer, Co G, 2d Bn, 2d Marines. Wounded in the jaw and neck during the first few minutes of the battle, the Major was evacuated and hospitalized for nine months. After attending the 6th Command and Staff School at Quantico, Maj Cason rejoined the 2d Marines on Saipan continuing with that regiment during the Okinawa demonstration and occupation of Japan. Maj Cason is now serving as an instructor of Tactics and Techniques at the Extension Division, Marine Corps Schools, Quantico, Va.

than he does from combat and training operations ashore.

He also prefers fire team and squad problems to the larger field problems. He usually knows what is going on and can argue with his fire team leader and sometimes with his squad leader about how and why things are done. Most junior officers prefer small unit training to larger maneuvers because of this fact.

✱ IT IS APPARENT that information is the factor which makes the differences noted above. The fact that every man should know everything possible about the enemy and friendly situations as they affect him has long been recognized. Military writers persistently refer to information as being important to both morale and combat efficiency. This idea has been expressed in numerous and sometimes tiresome exhortations to "explain the situation to your men."

This is sound advice, but it sometimes falls on unsympathetic ears when company and platoon commanders find that the exigencies of battle or the time schedule of a training problem preclude any detailed orientation on the spot. This is not an alibi, it is a fact. Military doctrine recognizes that many orders must be fragmentary at best in combat situations, and it therefore goes without saying that nobody will have time to tell John Rifleman why he is standing by in a certain clump of woods, what the other elements of his unit are doing, what the enemy's latest reaction has been, and what lines of action John Rifleman may be called upon to take.

No amount of careful planning is likely to make such complete orientation possible in combat. John Rifleman must know the answers to most of his questions without being told.

In training, complete orientation and explanation are possible. Effective training, which teaches John Rifleman the relation between his unit and other units, the various formations, and the meaning of tactical principles, will prepare him to answer most of his own questions in battle—to understand the time and space factors which cause him to stand for long periods in assembly areas, for example.

While the value of squad and fire team training problems is recognized, is not necessary that platoon, company, and battalion problems be curtailed in order to emphasize this "small unit" training. A few improvements in training methods can make the larger unit field problems fully as interesting and instructive to John Rifleman as squad problems ever were.

The basic fault in most of the larger training problems ashore is that they attempt to cover too much ground too fast. Typically, the larger problem consists of a series of situations which develop rapidly and involve the use of a great deal of terrain. Some of the small unit leaders gain valuable experience in controlling their units and

making decisions in these exercises, but John Rifleman is essentially sitting on first one hill and then another. This is often considered to be a necessary evil. It is an evil, but not necessary.

First, let's discuss how a platoon field problem can be improved. Instead of starting out bright and early to march, creep, crawl, and gallop across the training area all day through a succession of General and Special Situations, the platoon might take one thing at a time. The platoon commander might select one small part of the situation or one phase of the problem, and execute it completely before starting the next. To ensure that each member of the platoon, including its commander, gains maximum benefit from the exercise, the following manner of presentation is suggested:

Once on the ground to be used in the problem, Lt Platoon assembles all his men in a position from which they can see the terrain involved. There he orients them on the ground and explains the problem to be conducted: Its purpose and manner of execution.

Let us say that the problem concerns an advance from Hill A to Hill B, 200 yards to the front. After the orientation mentioned above, Lt Platoon issues a standard five-paragraph order, complete to the last detail, in the hearing of every man in the platoon. He explains the tactics involved: the reasons for adopting a particular plan, the function of each element in the action—the base of fire, maneuver element(s), and security elements—and how the platoon action fits in with the simulated company situation. He explains what his runners, platoon chief, and platoon guide will be doing, and the use to be made of support fire. He explains the manner in which he intends to control the action of his unit and how he will keep abreast of the situation. This phase of the problem should take half to three-quarters of an hour, during which time Henry Runner is required to forego his customary nap. Good training problems are for the benefit of *every* man in the platoon.

In the execution of his problem, Lt Platoon does not simply conduct an advance from Hill A to Hill B as planned. He takes one small part of the attack at a time. The size of this part depends on John Rifleman's state of training. In the early stages of training, for example, the first step in the problem might involve a movement only from an assembly area to a line of departure. The next step might be a movement of 50 yards or less, involving the emplacement of the base of fire and a single maneuver by a single element.

In addition to the general explanation mentioned above, a very short explanation of each step or movement should be made before that step is begun.

If John Rifleman's fire team goes up the wrong draw at the wrong time, or tries to cover the movement of another fire team from a position offering no visibility, Lt Platoon stops the problem on the spot. He explains



what has been done wrong and why it is wrong (again, to every man in the platoon), and points out what effect such a mistake might have on the action of the platoon as a whole. Then he starts that part of the problem over. He repeats it until it is done correctly.

A short critique or discussion follows each step of the problem, before the next step is begun. At this time, Lt Platoon repeats the plan and principles involved, and comments on the performance of each element of the platoon. John Rifleman is permitted to ask questions and make comments; thus he gains in his sense of responsibility and in his feeling that he personally is an important part of the platoon's action. He also tends to stay awake—so long as the critique is kept brief and businesslike. If allowed to drag out, the critique may bog down into a mere rest period or academic discussion, contributing little to the problem.

By breaking his problem into small segments in this manner, Lt Platoon will have an opportunity to explain to John Rifleman and his mates just why they have to stand by for 15 minutes at a particular place, awaiting the maneuver of other elements of the platoon, the organization of the base of fire, or the order to attack.

He can also point out the reason why John Rifleman's squad has to stand by with the mosquitoes in a covered position while the scouting elements investigate the ground to the front; the activities of connecting groups and flank security elements; the length of time it takes Henry Runner to get from John Rifleman's squad area to Lt Platoon's position; the length of time it takes a machine gun section to select its position and go into action, or to go out of action.

It may take the platoon all day to reach Hill B at this rate, but when it gets there, John Rifleman will know why his fire team took the route that it did, what principles were involved in its movement, and how its action was related to that of the remainder of the platoon. He will understand what the security elements, runners, and NCOs were doing and how their activities helped him to accomplish his own part in the maneuver.

These are some of the questions which John Rifleman should then be able to answer for himself in combat. After a thorough course of training of this type, he should have a quick grasp of the basic elements of any combat situation.

As the platoon progresses in its state of training and John Rifleman becomes familiar with the factors in a tactical maneuver as he is with the parts of his pack, the segments of the problem may be increased in size, time, and distance covered; but the principles mentioned above should still be followed.

☛ PLATOON PROBLEMS in defense can be handled in essentially the same manner, involving all the steps from the initial assumption of the defense through its develop-

ment and conduct.

In most training programs, company field problems follow platoon field problems. By the time company problems are begun, the state of John Rifleman's training should be such that platoon problems are being broken down into larger segments, possibly complete movements from one objective to the next.

When this state of training has been reached, company problems may be conducted in a manner similar to that just described for platoon training. Because of the larger number of men and the greater part of terrain involved in company problems, the technique must be simplified to some extent. John Rifleman plays just as important a part in company tactics as he does in platoon tactics, however, and for his edification the same steps in presentation may well be followed; first, orientation and explanation for the whole company; second, execution of a single company maneuver or part of a company maneuver; and finally, critique and discussion before the next part of the problem is conducted.

By taking one part of his problem at a time, Capt Company can explain and clarify the action as it goes along and can repeat any part of the problem *at the time a mistake has been made*. This is generally impossible in long problems which run for two or three hours and cover long distances. Conduct of company problems in the manner described here should teach John Rifleman the part his squad and platoon plays in company tactics. Nine times out of ten, John Rifleman will be delighted to find out what the company CP and OP are really good for, what the High Priced Help of company headquarters accomplishes, and how the support platoon is employed.

Further simplification is necessary in battalion problems, but they too can be conducted in short steps preceded and followed by discussion, and each step may be conveniently repeated if necessary. John Rifleman *can* learn something from a properly conducted battalion problem.

Under such a plan, John Rifleman will not be simply trudging from hill to hill during field problems. Instead of just hearing occasional bellows to "keep off the skyline" or "spread out," he will receive some instruction in field problems which have a real meaning and value to him. He will understand the purpose of each tactical movement and of each element of his unit; he will learn the part he plays in platoon, company, and battalion tactics. Each critique will be a matter of personal and professional interest to him.

Incidentally, the effort of presenting problems in this manner may result in giving a number of lieutenants, captains, majors, and lieutenant colonels a clearer picture of just what John Rifleman is doing all this time. War may still consist mostly of boredom for John Rifleman, but at least it will be an informed boredom. USMC

# Why Not a Marine Corps Drill Manual?

By 2dLt William A. Reavis

IF A CLOSE ORDER DRILL COMPETITION WERE HELD tomorrow between Lt Joe Gish's FMF rifle platoon at Pendleton and a platoon from Los Angeles High School ROTC unit, the latter would win, hands down. The teenagers would win by virtue of their precision, their superior knowledge of the drill, and most of all by their keener interest in the intricacies of drill field leadership techniques.

We would all tend to say that the poor performance of the FMF platoon was the fault of Lt Gish. Unfortunately, however, the blame extends beyond Lt Gish, who drilled the platoon; beyond Capt Baker, his company commander, who supervised the drill; beyond Maj Green, the Battalion S-3, who designed the drill program, and straight up to the higher brass, who had no more idea of the importance and the psychology of the drill than did Lt Gish. He is the product of the trouble, not the source. To get at the source we must study the whole subject from top to bottom, attempt to reduce it of its present absurdities and inadequacies, and then decide on a new course of action which will establish a new efficiency of drill in the Marine Corps.

Upon close inspection, we find that there are six major problems which exist today in COD:

1. S-3s and drillmasters do not realize the importance of COD in the training program.
2. The majority of officers and noncoms have only a superficial knowledge of the drill which they direct.
3. Drill principles must be paralleled with leadership techniques in order to realize the fullest opportunities for command experience.
4. Officers should realize that drill can be constructive, interesting and morale building by the application of proper attitudes, incentives and programming.
5. Drill principles must be standardized throughout the Marine Corps, so that the harmful and confusing affects of ground rules and unit differences will be eliminated.
6. The present drill regulations should be revised with an eye to simplicity and efficiency.

The magnitude of each of these problems will be discussed in detail later in this article, but first let us present a concrete, effective antidote to the entire misrepresented and maligned subject of close order drill. And that is to write a new *Marine Corps Drill Manual*, specifically designed to conquer the diseases mentioned above and to

redirect the drillmasters of the Corps into greener, more productive pastures in the future.

The present text on close order drill is the Army field manual, 22-5. Any officer or noncom who has perused its pages knows that the phraseology of 22-5 is intrinsically dull, impersonal, and stilted. The manual contains a few loosely-knit leadership hints for drillmasters, but no attempt is made to relate such information to the drill itself.

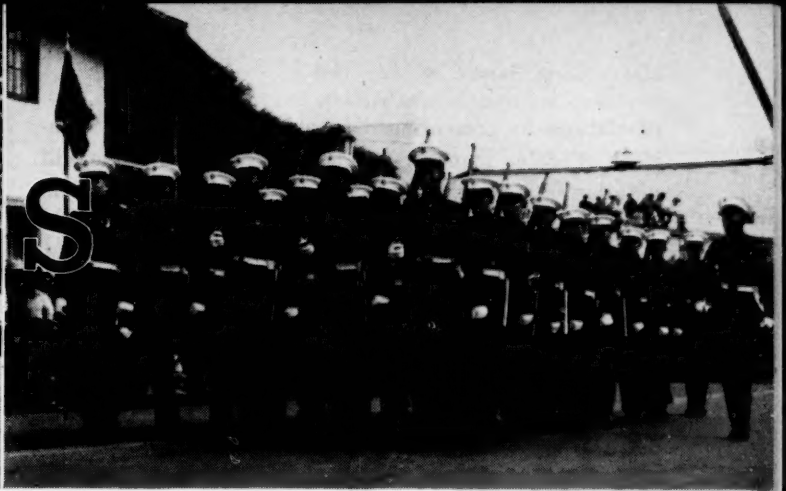
On page 47 we find the following:

"The drill prescribed herein is designed for general use; therefore some of the explanation is of a general nature which gives sufficient latitude for adaptation to a specific unit. Interpretations should be based on these general provisions, and all should learn to use this manual as a guide to a common-sense solution of minor points which are not specifically covered in the text."

Therein lies the source of the mass of ground rules and unit drill procedures which beset the Corps. FM 22-5, by its statement quoted above, in effect says: "Well, this is the general idea. If you don't like the way we suggest, then do it any old way you like." And an observation of many Marine posts would indicate that commanders "do it any way they like."

In addition, we might mention a few other passages from 22-5. On page 52: "Any movement may be executed at double time, unless obviously impractical." In accordance with this, units have been observed ludicrously performing to the rear, flank movements, and marking time while double timing. The manual does not state what preparatory commands of the company commander should be repeated by the platoon leader, but only the vague, confusing statement: "If all men in the unit are to execute the same movement simultaneously, the platoon leaders repeat the preparatory commands of the company commander for the facings and marchings." Then again, on page 66 we find the odd distinction that a man should keep his right foot in place when at ease, but can keep either foot in place when at rest. Several serious omissions occur throughout, such as the number of sidesteps to be taken by each squad at close march, and what foot *forward march* should be given on from an oblique.

In order to correct the evils of 22-5, the staff at the Basic School has rewritten the old Landing Force Manual



**When it comes to close order drill, Marines must take a back seat. High school cadets are better, says the ebullient Mr Reavis, and the blame falls on all ranks. Lt Reavis says drill principles must be standardized throughout the Corps**

section on close order drill, and hopes to publish it some time this year. Except for a few minor changes, the drill regulations are *verbatim* from 22-5. The new LFM adds a small amount of leadership material concerning the bearing of the drill master, etc, but no effort has been made to actually integrate this leadership material with the drill itself.

☛ THE LANDING FORCE MANUAL will never be a real Marine Corps drill manual because it is not directed towards the Marines, nor couched in their terms. Better for the Marines to write their own drill manual, recognizing the fact that the day of campaign hats and landing forces composed of bluejackets and marines is over.

But enough of this: let's get back to the six problems of close order drill mentioned earlier.

1. S-3s and drillmasters do not realize the importance of COD in the training program.

Many Marine officers have said that drill is outmoded; that it bears no relationship to actual combat, and is therefore of no use to us in this modern, practical age except as a means of displaying troops to the public. What they don't realize is that drill is a cameo, while field work is a portrait. By this we mean that the same principles of command, of leadership, of discipline, and response to a leader's orders apply on the drill field as in-combat, and that those principles are present in their clearest and most tangible form, readily available for the indoctrination of the young leader.

The second advantage which can accrue the *proper* application of drill is cohesion, group morale, pride in the outfit, or whatever you might want to call it. This is one of the most neglected concepts in close order drill, mainly because of the failure of the application of correct psychological principles which will be discussed later. We

all know that any cohesion within the squad, platoon or company will immediately be valuable in battle; but what few officers seem to realize is that COD can be instrumental in building this cohesion. There is no other phrase of military training where men act in such close coordination as they do in drill; and intelligent application of drill techniques will make that coordination second nature to them, almost instinctive in the field.

With a concrete realization of the benefits to be accrued from drill, officers can more intelligently integrate drill into the training schedule, and can change present day punishment into an effective phase of military life.

2. The majority of officers and noncoms have only a superficial knowledge of the drill they direct.

Most drillmasters in the Marine Corps either do not know the drill regulations well enough, or cannot agree on what is the correct drill procedure. One out of every three officers will give halt at the sidestep when the feet are apart, and one would have to search far and wide to find a single drillmaster who could describe in detail the position of attention or the execution of stack arms. Many officers either give commands on the wrong foot or mix up their rights and lefts simply because they are facing their troops. Some drillmasters teach that the guide and the platoon leader are the pivoting rank in column movements, while others maintain that the pivoting rank is the squad leaders.

It is axiomatic that a teacher must know more of his subject than he presents to his students. An officer or noncom who does not know his drill perfectly cannot demand precision from his unit, and at the same time will lose the confidence of his men, based as it is on an appreciation for his ability to command. As we have already indicated, a *Marine Corps Drill Manual* would take great strides toward better learning of the drill



regulations by presenting the material in a precise, complete, readable manner. Of course a manual alone will not do the job, but if it is paralleled by a new conception of the importance of COD we can build a new knowledge from the present foundation of fact and fancy.

3. Drill principles must be paralleled with leadership techniques in order to realize the fullest opportunities for command experience.

Contrary to the preceding paragraph, an officer may know the drill regulations perfectly, and still manage to make a mess of his unit on the drill field. We say that he has failed because he had no understanding of the technique of close order drill command. If we look around we see hundreds of violations of leadership principles condoned on the drill field and condemned in combat. And those violations exist simply because the officer or noncom never had anyone to tell him the right way to lead men in drill.

Despite the protests of many marines of the old school, we must recognize that commands should not be given in quick succession, as many commanders are prone to do with a long string of flank movements and to the rears. Such maneuvers seem useless to the men in the ranks, and serve only to generate a "what the hell" attitude on their part.

Officers and NCOs should avoid a "know it all" attitude concerning drill, promoting as it does sloppy, offhand drilling. Too many men look upon a platoon as just a plaything to promote their interest and pass the time, failing to stand at attention when they give commands, and throwing commands over their shoulder casually while marching.

❖ FEW OFFICERS REALIZE the hard lot of the short men at the foot of the platoon during drill. They will give column left and then right flank before the end of the platoon has rounded off into the new direction and aligned their ranks. It is the tendency of most platoon leaders to march too close to the front of the platoon, and thus forget that the runts can't hear the commands or the cadence; and most of them don't care much anyway, because they can't be observed by the platoon leader.

Too many battalion and company commanders designate dungarees as the drill uniform, forgetting the fact that garbage men don't make good precision drillers. Some have even been seen observed holding inspections in such regalia, the same outfits which had been worn the day before in the field. Repeated washings caused by such inspections cause the web gear to assume every shade from white to dark green. Close order drill should be *always* conducted in greens, and preferable using equipment which is utilized solely for garrison use.

Much has been said about drill conditions, both that of terrain and of weather. It is a well known fact that drill

environments must be as near ideal as possible in order to realize the fullest drill efficiency. The drill ground should be perfectly level and free of all obstructions and depressions which might impede or restrict the movement of drill units. There should be no dust, mud or ice. In regard to weather, S-3s should realize that men who are cold or wet cannot get any good whatever out of the drill period, and that such evolutions should be replaced by indoor instruction and lectures during the winter months.

And so we see what is meant by the technique of close order drill command: a concept which extends from the platoon and squad leader up to the battalion S-3. These are things which must be explained, illustrated and driven home to every drillmaster. We cannot depend on such concepts being passed down from man to man, but must incorporate such material in the *Marine Corps Drill Manual*.

4. Officers should realize that drill can be constructive, interesting, and morale building by the application of proper attitudes, incentives, and programming.

Time and time again, drillmasters will take their units out on the drill field and do some flank movements, some column movements, an oblique or two, and then pepper the whole stew with a little marching manual and then call it a day. Five days a week, fifty-two weeks a year, the process is repeated, *with absolutely no improvement whatsoever to show for months and months of effort*. The basic fallacy here is the theory of "All And Nothing"—whereby a commander merely does whatever movements come to mind, and actually has nothing to show for his hour of work.

The *only* way to conduct the drill program efficiently is for the drill supervisor to *assign* certain definite movements to his drillmasters prior to each drill period, and to demand that the movements assigned be thoroughly explained, demonstrated, and executed, with the immediate goal being *perfect* performance of the movements in question. *This is the only means of making the men feel that they are accomplishing something tangible during the drill hour*. The man who recognizes the fact that his effort is pointed toward a recognizable, definite goal will be a 100 per cent better driller than the man who merely looks upon the drill period as a necessary evil, to be endured. The first man will be readily moulded into the team, while the second will be a reluctant, sometimes exasperated hanger-on. The fact that most of the men of your platoon know most of their drill fairly well already has absolutely no weight in the matter, because without section by section scheduling the hour of "All And Nothing" will be pointless, tiring, and most of all, most irritating to the intelligent spirit.

There is another most important factor in the programming and handling of drill which should be better appreciated by drill supervisors. And that is the psychological value of competition. It will transform an

indifferent, apathetic platoon into an energetic, alert, cohesive body of men almost overnight, whose every effort will be directed to the perfect performance of each maneuver. Enlisted men react just as strongly to this type of incentive as do any teen-age ROTC cadets.

And so we see that both these incentives, progressive programming and the spirit of competition, should be interwoven into the fabric of every close order drill program. To say to one of your platoon leaders: "Take 'em out and drill 'em around for an hour" is one of the gravest mistakes made today, and is one which can be found in almost every unit of the Marine Corps. The present aversion toward the futility and the tediousness of close order drill is one of the cornerstones of many men's dissatisfaction with the military environment and such attitudes can only be counteracted by the use of proper incentives and programming.

5. Drill principles must be standardized throughout the Marine Corps, so that the harmful and confusing effects of ground rules and unit differences will be eliminated.

We have already quoted the passage in FM 22-5 concerning the "general" interpretation of drill regulations. The results of this can be observed at every post and station of the Corps. Some units prescribe that parade rest shall be assumed at the command "Platoon," while others do not. Some officers give right face and then right shoulder arms, others habitually reverse the procedure. Some inspection officers do facings in marching while moving down the ranks, while others sidestep. Again, no one seems to agree on the correct method for checking the ranks when the platoon is dressing right.

☛ THE BIGGEST NEED for standardization in the Marine Corps is in the matter of command cadence. We have allowed each drillmaster's method of giving commands to be his own individual *personality* instead of demanding a standard, easily followed system of timing which would be the same throughout the Marine Corps. Many times mistakes in performance will be blamed on the ignorance and inadequacy of the troops, while in reality they were due to a wide divergence between the command timings of two successive leaders. The answer is, obviously, to prescribe exactly what foot the command will commence on, in addition to what foot the command of execution will be given on, and to enforce such regulations. Many commanders do that now, on a local scale, but the same individualities are present from post to post.

The methods of pronouncing commands also need standardization. This is especially true in the case of many noncoms, whose commands seem to be a separate and distinct language all their own. The irritation and unnecessary work done by troops who are forced to accustom themselves to such variations from the normal far outweigh any possible unit cohesion and spirit which

might eventually ensue.

All of the things mentioned in the last few paragraphs are subjects which should be standardized throughout the Marine Corps through the medium of a comprehensive, concrete *Marine Corps Drill Manual*, which would for all time put such ground rule provoking practices into definite form in black and white, for all to refer to.

6. The present drill regulations should be revised with an eye to simplicity and efficiency.

An entire volume might be written to incorporate all suggested changes in drill procedure, but only a few of the more obvious inadequacies will be mentioned here. It should be one of the purposes of a new *Marine Corps Manual* to reassess each maneuver in the light of its value to the Marine Corps, and to simplify wherever possible the jumble of complicated procedures which now beset the drillmaster.

The commands for manual of arms while marching should be given on the left foot instead of the right, and an "and" count taken before the commencement of the movement. This will eliminate the present abruptness of the manual underway, which is especially provocative of errors when passing from right to left shoulder. In addition, several commands could be shortened with the idea of giving a sharp, distinct command. There can be no logical reason for saying "By the right flank" instead of "Right flank," or column half left" for "half left," or "count cadence, count" for "cadence, count." The complicated maneuver of halting from the oblique to face front should be disposed of, as should the command "adjust slings," which should be the second movement of the command "unsling arms." Also, there is no necessity for the command "at the trail:" it is done automatically anyway when forming for shelter tents and extending on line. BAR men should be allowed to unsling arms at ease, as they can now do at rest.

We constantly hear that Naval terms should be emphasized more in the Marine Corps, but still blindly use "As you were," simply because it is prescribed in 22-5. "Belay that" would be much more appropriate, as would "Bear to the right" for "incline to the right." It would be much more logical for the guide and the platoon leader to be the pivot in column movements, as that would eliminate the jockeying for position which they now have to do, and would allow the guide to definitely establish the new direction of march.

And so we can see the need for a new *Marine Corps Drill Manual* which would relate the mechanics of drill to the psychology of command; standardize, simplify and modernize the drill regulations; and which would relate the drill to the other phases of the military training program, emphasizing those methods which will bring close order drill to a new and prominent position in the minds of the drillmasters of the Marine Corps.

USMC

# Evolution of Speed

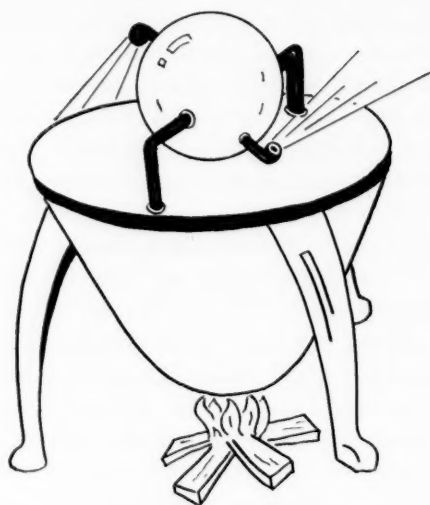
By William P. Brotherton

✿ IT WAS INEVITABLE THAT TRANSPORTATION SHOULD take to the air. From the time of the Italian genius, Leonardo da Vinci, who sketched the possibilities of heavier-than-air flight, man had dreamed of becoming airborne.

This yearning to soar found little expression except in the winged figures on the canvases of the old Masters until the 18th century. In 1783, the Montgolfier Brothers watched, with wondering eyes, their first important balloon ascent which marked man's adventure into the sky. From this followed a long list of valiant attempts to master true winged flight. John J. Montgomery in America (1883) and Otto Lilienthal in Austria (1891) soared in winged ships from the earth. Then, in 1903, the Wright Brothers accomplished the first powered flight which launched air travel on its meteoric way. Somehow, man had always conceived of flight as the speediest method of transportation because it involved the least friction.

Before the Wright Brothers flew their powered glider they had to select the type of engine they would use. They chose the *gasoline engine* because of its light weight. In surface craft this characteristic had not been a critical factor but in an airplane it was a paramount importance. They built their own four-cylinder engine and used it to spin a propeller in order to thrust the vehicle through space. The propeller had been successfully used for propulsion in another fluid—water, on ships—and it served the same function on the airplane. The Wright's 12-horsepower engine whirled the propeller, which pushed the plane, so that it gathered speed until sufficient air flowed over the wings to create the lift necessary to carry the plane aloft. In this manner the first powered flight was made for a distance of 120 feet—less than the wingspread of a modern bomber.

The tremendous progress which has been realized since then in expanding the speed and carrying capacity of the airplane has been channeled into two fields of endeavor: aerodynamics and power. By every conceivable means, the airplane has been made more stream-



lined or aerodynamically efficient. Early triplanes and most biplanes have given away to the single-wing monoplane design in order that less frontal area should be presented to the air in flight. Familiar strengthening members such as struts, spars, and wires have been nestled inside of the wing. The landing gear has been retracted into the airplane and the cockpit has been smoothly enclosed in plastic.

As aircraft speeds were stepped up from the original Wright Brother's 30 mph, drag increased because of the simple fact that the air molecules were meeting the flying surfaces at greater velocities. This increase in friction, which occurred at a faster pace than the increase in velocity, was a simple matter to contend with at relatively low speeds. Extra power was crammed into the ship and the design was further streamlined from time to time. But when propeller-driven planes began to reach the 400 mph mark real difficulty was experienced. A tremendous boost in power was required to push the speed to 500 mph and there a ceiling seemed to be reached because the propeller tips lost their grip on the air and began to vibrate with ominous warning.

What happens when this occurs is described by engineers as "*compressibility effect*." Essentially, it means that the whole dependable character of the air suddenly changes with devastating force when a body penetrates it at the speed of sound or 764 mph at sea-level. Instead of behaving like a reliable fluid and flowing around the traveling body, the air is pushed back so vigorously that it piles up ahead of the surface in a mass of compressed air. This ramming together of the air molecules, without giving them time to flow out of each other's way, results in a pressure wall being built up ahead of the airplane.

The propeller loses much of its ability to act as an air screw, or thrust mechanism, when this temperamental tantrum of the air occurs. The propeller may suffer



The principles of jet propulsion have been known thousands of years, but a useful jet was not developed until 1937. The jet engine is the greatest single aeronautical advancement since man's first efforts to propel himself through air

from compressibility effect at plane speeds as low as 450 mph because the forward speed of the airplane added to the speed of rotation of the blades brings the propeller tip speed up to the critical 764 mph speed of sound.

Eliminating the propeller entirely does not solve the problem but does allow the designer to get more speed out of his airplane. Several jet-propelled planes have swooped well past 600 mph until the air was flowing over certain plane surfaces at 764 mph. Then the roaring, hammering blows of the compressed air waves which signal loss of control and eventual disintegration were experienced. In these cases, the forward surfaces of the airplane, particularly the wing leading edges, compress the air and have to fight the same air battle that the propeller staged at lower speeds. Great masses of compressed air leave the wing surfaces and expand with sudden fury. Like huge chunks of wet snow sliding off a roof, these unpredictable blasts buffet the aft sections of the airplane, sometimes hammering the tail away or chewing great holes in the surfaces.

✿ MANY INGENUOUS INNOVATIONS have been resorted to, such as swept-back wings and swept-back propeller blades, in order that pilots may creep closer to the destructive speed of sound. These stratagems do not eliminate any part of the compressibility effect problem, merely postponing it until higher velocities are attained. Aircraft will have to crash the sonic barrier in one powerful surge which will carry the craft from 650 mph to 850 mph quickly. It is within this general speed range that the air acts both as a compressible and non-compressible fluid, causing so much trouble. With the complete penetration of this danger zone, many engineers believe that greater speeds will be attained by simple increases of applied power.

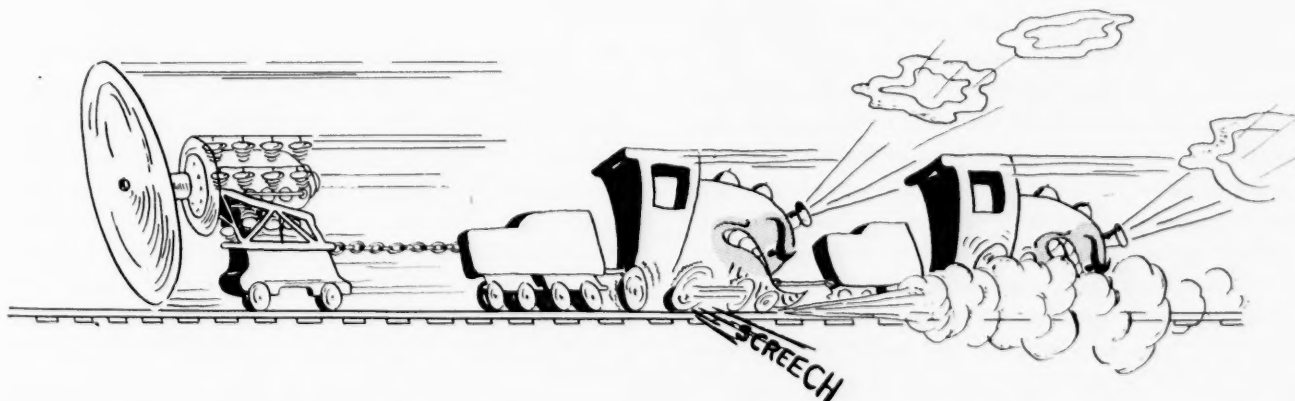
Of course, several man-made objects have travelled

well over the speed of sound. The V-2 bomb has reached 3600 mph and certain projectiles have been fired at velocities of 4,000 to 5,000 feet per second. The V-2 makes this speed at a 70 mile altitude where it is above 90 per cent of the air blanket. Consequently, there is very little air resistance, or drag, to hamper its flight.

It would not be too difficult to construct an airplane in the shape of a projectile which would be capable of supersonic speeds but the main stumbling block is taking off and landing. Projectiles cannot fly at the low speeds necessary for these rather vital functions. Conceivably, take-off could be managed with jettisonable wings, which could be dropped afterwards, but the prospect of landing a projectile without wings would give any pilot gray hair. One suggested approach is to design a bullet-like airplane with telescopic stub-wings which could be pulled into the fuselage after take off and extended for landing. This thought has not been translated into an actual airplane but is an interesting one to contemplate.

In any event, we shall not look forward to flight of more than 1500 mph within the atmosphere because at that speed friction from the airplane passing through the air generates unbearable temperatures which would require elaborate refrigeration. Outside of the earth's atmosphere, flight is a different story. Without air to impede the journey, speeds of 10,000, 50,000 and 100,000 mph are theoretically possible. The determining factor is the energy content of the fuel used. Of course, oxygen must be supplied to the engines for combustion, as well as to the passengers for breathing in such a space ship which ventured into the void.

✿ SINCE THE INCEPTION of powered flight, aircraft speeds have been pushed up an average of 14 mph per year. In the early aircraft, the limiting factor in attaining higher velocities was the amount of power which





*Evolution of Speed* is Mr William P. Brotherton's second contribution to the GAZETTE. His first article, *Jet Information Please*, a military digest, appeared in the June, 1947, issue. An employee of the Ryan Aeronautical Company since 1944, Mr Brotherton has contributed

100 articles to magazines and other publications. Born in San Francisco, Calif., and educated at San Diego State College, he joined the Ryan Company as technical editor after serving as illuminating engineer with the San Diego Gas and Electric Company for 10 years. After serving as interpreter of technical activities for the Ryan Company he became manager of export sales for the Ryan Navion private plane last summer, establishing foreign distributors and expediting shipment of Navions to South Africa, India, Europe, South America, Mexico, and 36 other countries. He has given 250 talks on all types of aviation subjects to Army and Navy pilots, engineering societies, various clubs, and school assemblies.

could be compressed into a light-weight engine. The Wright's kite-like craft would undoubtedly have flown faster if more power had been available. As power plants became more effective, and speeds increased for that reason, air resistance placed a limitation upon speed. At certain points along the way of air progress, aircraft structures could not stand the stress of speed made possible by powerful engines. This jockeying back and forth between better streamlining and higher horsepower engines has continued throughout aviation's history. Today, the advent of new and mightier sources of power has again placed the onus of holding back flight speeds upon the airplane structure.

Increases in power have been effected by multiplying the number of cylinders in the gasoline aircraft engine. From the original four cylinders, the internal combustion engine has been increased to six, eight, twelve, and twenty-four. When a practical limit to the length of the crankshaft was reached, the cylinders were radially packed around it in banks of nine, eighteen, twenty-eight and so on. During this development, every bit of metal which could be dispensed with was cut out of the engine in order to bring the weight down. Amazing engineering feats have been accomplished with this engine

to produce a packaged power plant that would make Aladdin blink his eyes.

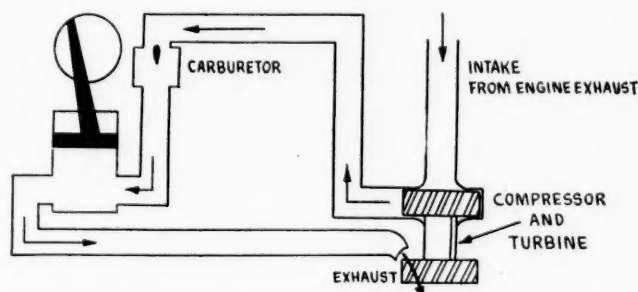
With four of these modern engines, a giant airplane weighing as much as four freight cars can be hurtled across the sky at 450 mph. One of the new 28-cylinder aircraft engines packs almost as much power as two average passenger train locomotives. You could place it in the cab and it weighs less than the wheels alone. This compact engine, which develops 3600 horsepower and weighs 3400 pounds, could shoot a one-ton elevator up the shaft of the Empire state building faster than the speed of sound. Each of its 28-cylinders resembles nothing more than a cannon barrel retaining the thundering blast of 21 explosions of compressed air and gasoline per second. With every violent detonation, a massive pressure of 15 tons pushes the piston down and presses against the thin metal cylinder walls. One cylinder of these titanic monsters generates more power than most automobile engines. With such power as this, aircraft speeds have been advanced to the point where the pilot is knocking out on the wall of compressibility. But, because the gasoline engine depends upon the propeller to translate its energy into thrust, or forward motion of the airplane, it is incapable at this time of exerting that extra lunge necessary to achieve supersonic flight. Just at the time the propeller is called upon for its maximum effectiveness, its efficiency begins to fall away due to compressibility effects.

In addition to the sins of the propeller which fall upon the engine, there is a little problem of heat disposal that is a power plant offspring. To support the volcanic combustion in the cylinders, the engine consumes air like a raging forest fire. This air is rammed into the cylinders where it is instantly transformed from a cool docile gas to a fiery 1600°F blast which could quickly melt the aircraft's structure. It is one of the tricks of exhaust systems engineering to channel this seething flow from the confines of an enclosed engine to the atmosphere without drag or damage. With increases in power, it has become more difficult to dispose of this heat of combustion from modern aviation engines. Some authorities place the limit of the size of this type of engine for aircraft at 4,000 to 5,000 horsepower because of this factor.

✿ TO THE MEN who build planes and fly them, *jet propulsion* is the biggest single advance since the beginning. It is the entrance into the final phase of man's effort to propel himself through space. The first practical jet engine, built by Air Commodore Frank Whittle in England in 1937, was a combination of a heat engine—the gas combustion turbine—and a jet propulsion device. It is the engine which has launched an era of aircraft possibilities that challenges our imagination.

For thousands of years jet propulsion devices have been

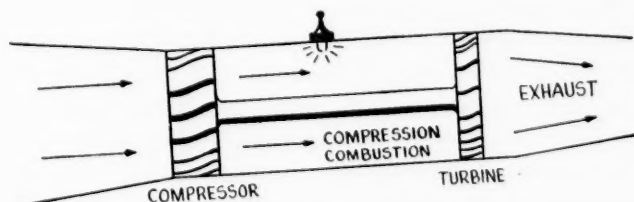
known. Small toy-like gadgets which emitted hissing jets of steam and spun in the opposite direction were made in ancient Greece. Sir Isaac Newton formulated the principle upon which jet propulsion functions in his third law of motion, and worked fruitlessly on a jet-propelled automobile. Almost everyone is familiar with the antics of a sky rocket, water sprinkler head and punctured toy balloon. But a useful jet engine was not developed until 1937 because high temperature-resistant



**Turbo-Supercharger**

metals were not available which could stand the terrific heat experienced in the working parts of this new power plant.

The gas turbine jet engine (turbojet) is a roaring blow torch of an engine composed of a spinning air compressor which sucks in huge quantities of air, packs them into flaming combustion chambers to burn with ignited kerosene and spits the exhaust out of the tail-pipe with the kick of a machine gun. It is one of the simplest of heat engines, having no carburetor, reciprocating parts, supercharger or ignition system for normal operation. It swallows its own cooling air, dispensing with cooling systems. It is harnessed to no propeller, transforming the chemical energy from the fuel directly into thrust for flight. It has only one major moving part; a whirling shaft



**Turbo-Jet Engine**

on which are located the air compressor and the turbine wheel. It will burn almost any fuel which can be blown through a nozzle and burned; from kerosene to powdered coal.

In an airplane, the jet engine lends itself to a smoothly streamlined installation in wings or fuselage. Volumes of air ram into its mouth in flight by means of special

ducts in the plane. This air is scooped up by the rotating blades of the compressor which packs it more tightly and pushes it into a bank of seething combustion chambers. Here, kerosene is injected and ignited. Combustion occurs with a fierce continuous blaze much like the burning of a blow torch flame, and the expanded exhaust is shot to the rear. Before rushing into the tail-pipe, this fast-flowing exhaust whips through the blades of a turbine wheel, causing it to spin. The turbine shaft spins the air compressor located at its forward extremity, causing more compressed air to be fed to the combustion chambers. This sounds like a "lifting up by the bootstraps" proposition. Actually, it is an integral air pump driven by a gas turbine.

After the exhaust leaves the turbine blades, it blasts from the tail-pipe at velocities of 1,000 mph. Just like a gun recoils from the speeding bullet, the airplane recoils from the accelerated stream of exhaust gas. It doesn't make much difference what you use; a solid bullet, a stream of water or a flow of gas but if you expel it in one direction the expelling device will tend to move in the opposite.

In the turbojet, everything is designed to increase the velocity of the air as it passes through the power plant. The reason why fuel is burned with the air is to give it more speed by the expansion of combustion. After leaving the turbine wheel, it is squeezed into the tail-pipe to accelerate it further by restricting its cross-sectional area. Kicking the gas out of the tail-pipe at a much greater velocity than it entered the nose of the turbojet, creates the force of reaction, or recoil, which is necessary to propel the airplane.

Compared with the other heat engines of history, the turbojet engine has many advantages. It takes the asset of the gasoline engine—*internal combustion*—and combines it with the advantage of the steam turbine—*direct rotary motion*—to form an *internal combustion turbine*. Instead of having several separate components to produce the *combustion*, *compression* and *exhaust*, it accomplishes these functions within one unit. The order is changed slightly, with compression coming before combustion. This brings up the fact that this engine is a low pressure engine working at maximum pressures of around 75 pounds per square inch. The pressure peak is experienced in the air compressor. The pressures in the combustion chambers are actually less than that developed in the compressor—otherwise the exhaust would squirt out the nose of the engine as well as the tail-pipe. From the nose to the exhaust nozzle, the speeding gases drop in pressure but increase in velocity.

Basically, the turbojet performs the same function as the propeller. Both accelerate quantities of air rearward and are in turn swept forward by the reactive thrust. At low aircraft speeds, the large propeller can handle more air than the relatively small diameter turbojet. For this



reason, jet planes require more area for taking off. At high airplane velocities the turbojet can swallow several times as much air as the propeller can chew. Some of the latest turbojets gulp down two tons of air per minute. And, the turbojet makes exceptionally good use of the air it consumes. It employs the same swiftly flowing air stream to feed its fires of combustion to cool its volcanic parts and to thrust it through space.

THE TURBOJET ENGINE has acquired a reputation for outlandish fuel consumption. This accusation is justified only if you compare its performance in that regard with the gasoline engine at relatively low aircraft speeds. At velocities of 550 mph and over the turbojet begins to use progressively less fuel for a specified flight task than conventional power plants. Essentially, the turbojet is a high speed engine. Like a voracious tornado, the faster it goes the more air it sucks in and the more air it consumes, the faster it goes. As this "ring around the rosy" begins to spiral upward, the turbojet becomes more efficient until it reaches its maximum speed. This occurs when the engine is traveling forward at the same velocity that the jet stream spurts to the rear, or 1000 mph with kerosene as a fuel. The trouble is that we have to take the turbojet and place it in aircraft which, aerodynamically, cannot take advantage of its possibilities. When we have supersonic airplanes, the turbojet and other types of jet engines will come into their own.

THERE IS AN interesting trend in power plant development which has culminated in the turbojet's invention. In 1917, wartime pilots who had learned the advantage of being "on top" in a dog fight were coaxing their planes up to altitudes of 24,000 feet. They carried oxygen bottles for their use at these heights but their plane engines had no oxygen supply. In the thin rarified upper air, the engines would gasp, strangle and produce about one-half the power of which they were capable at sea-level.

Dr Sanford Moss, a General Electric Company engineer, studied the problem and designed an air pump—called a turbosupercharger—to resuscitate the strangling engine. This was a sort of "iron lung" for cramming vast amounts of compressed air down the engine's windpipe. He hit upon the idea of using the exhaust gases from the engine as a source of power for this air pump. His turbosupercharger is composed of two halves. The bottom half is a gas bucket-wheel turbine which is spun at 30,000 rpm by the engine exhaust and the top section is a rotary compressor which sucks in the air and packs it into the engine. Eventually, this auxiliary became so efficient at high altitudes that it was accounting for as much power as the engine it served.

In effect, Dr Moss had an air compressor spun by a gas turbine which was actuated by the products of com-

bustion of another engine. This was a miniature *turbojet*. It might be said facetiously that the turbosupercharger, which started out as an auxiliary to the gasoline engine, has grown up and discarded its former parent to become the present *turbojet engine*.



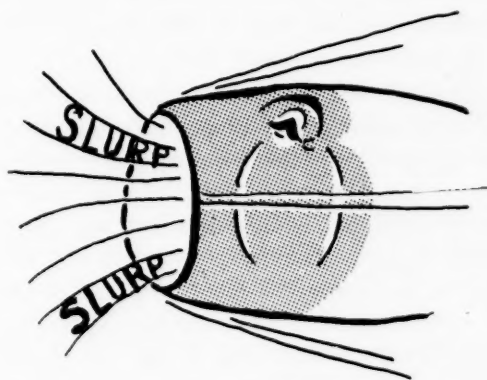
Now a further development in this trend toward greater simplification and faster flying power plants has occurred. This is the *ramjet* engine. It was realized by engineers that when the *turbojet* got up to speeds of 500 mph in flight, the air was ramming down the engine so fast that the turbine and air compressor could be dispensed with and the engine would continue to operate. Actually, the turbine and air compressor are needed only to get enough air into the combustion chambers at the low speeds of take-off to make the engine perform. Following this thought, the exhaust tail-pipe of an airplane, was taken, modified, and launched into space with a rocket device. When the tail-pipe reached high velocity, its own speed compressed the air rushing into the nose. Fuel was burned with this air and the exhaust was blasted out the rear. Reaction from this jet stream whipped the tail-pipe up to 1500 mph. At this velocity, the engine developed an equivalent of 3,000 horsepower at the phenomenal weight ratio of one horsepower per half-ounce. Called "the flying stove-pipe with a fire inside," the ramjet is a 70 pound tube without moving parts. It accomplishes *compression*, *combustion* and *exhaust* with the minimum of time and equipment. The ramjet may be said to be an auxiliary of the turbojet which has likewise grown up and kicked its parent out. Some interesting possibilities can be foreseen for the ramjet. A couple of them could be attached to an airplane which was powered by turbojets. When the airplane attained a speed of say 600 mph the ramjets would be ready to operate. Here, might be a source of great additional power at little weight sacrifice which could be used to crash the sonic barrier.

Another fascinating thought occurs when we conceive of a ramjet engine coupled to the rear of a turbojet. Then the ramjet would be receiving a blast of exhaust which is

already moving at 1000 mph even though the airplane may be flying at low speeds. Considerable unburned oxygen exists in this jet stream so that the ramjet could operate as an auxiliary thrust booster of startling capacity.

There seems to be no end to the possibilities realized by switching various combinations of the elements of heat engines. For instance, increased compression and greater efficiencies may be realized by substituting the piston and combustion chamber of the gasoline engine for the combustion chamber of the turbojet. This would allow higher compression to be attained before the exhaust was released to the gas turbine and might result in a forward step.

☛ ONE OF THE most sensational types of jet propulsion engines is the rocket. This power plant doesn't breathe the atmosphere but carries its own supply of oxygen. The oxygen and fuel are mixed and burned in a combustion chamber. The escaping exhaust is projected through a nozzle and the whole affair is propelled by jet propulsion reaction. This type of engine zooms the V-2 bomb into space for distances as great as 103 miles. Undoubtedly, if anyone makes a trip to the moon, it will be in a rocket-engined conveyance which could operate inde-

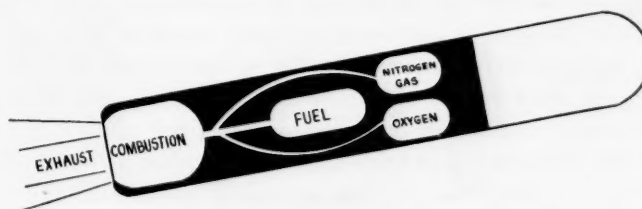


pendently of spatial conditions. Truly high speeds could be enjoyed in frictionless outer space where no atmosphere could hamper your travel and compressibility effects would be left far behind. Silently gliding through space at several miles a second, a rocket to the moon would have to travel under power only to a point between the earth and moon where their gravitational effects are balanced. Because of the greater mass of the earth, this would be much closer to the moon. At this interlunar point, the rocket would begin to fall into the moon and the pilot's main consideration would be how to avoid crashing into that lifeless body.

Or it might be possible to fire a rocket-engined space ship into the sky at the proper speed and direction so that it would begin to travel around us in a perpetual orbit of its own. If it could get beyond the atmosphere

with sufficient reserve power to give it the initial orbital velocity, this would occur. The centrifugal force resulting from its circular zooming around the earth could just balance the gravitational pull of our planet and allow it to wend its way endlessly about us in frictionless space. One handy use for this earthbound satellite would be that it would provide a ready means for setting timepieces—provided that it could also be seen.

Two top problems which the design of rocket vehicles



Rocket

for interstellar travel pose are caused by the lack of air available for engine cooling and directional control. Without an air stream, real thought has to be given to the problem of cooling the combustion chamber of the rocket engine. It would tend to get hotter until it fused. Also, the method of steering a space ship through a vacuum necessarily obviates the use of conventional control surfaces which require an air stream to be effective.

Fortunately, these prime problems were solved in the design of the famous V-2 missile. German engineers tackled the heat disposal question by simply circulating the fuel around the combustion chamber prior to burning it. In this ingenious way, the combustion chamber was cooled and the fuel was pre-heated so that it was burned more quickly. For guiding the huge 14-ton V-2, graphite fins, which would stand the extreme temperatures of 5,000 degrees, were placed within the jet exhaust stream itself. These control surfaces were actuated by gyroscopic mechanisms, or could be controlled by electronic devices. When they moved, the jet stream was deflected and the missile followed the path which was prescribed for it. Using these innovations, the V-2 bomb has pioneered a blazing trail to the highest heavenly altitudes which a man-made projectile has penetrated.

We have come a long way since the dawn of the lever, inclined plane, and wheel. Even the steam engine, the steam turbine and gasoline engine seem to belong to a remote era, spearated from the present procession of reaction engines by a new concept in powered propulsion. One by one the obstacles to faster travel have been swept away by science. It begins to appear that the only consideration which will eventually limit the speed and distance of our moving will be the availability of energy in compact fuels. Perhaps that is the appropriate setting for the development of atomic energy fuels. USMC

# Marines in the Pacific War

## Chapter 25

### CONCLUSION: THE LAST STAND

AS EARLY AS 13 MAY, WHEN THE FALL OF THE SUGAR Loaf and the Conical left his flanks substantially in air, Ushijima's staff had begun to draw operation plans for a general retreat and to move the service commands, with such items as files of correspondence and the Okinawan women who served the convenience of the officers, into the southern tip of the island. There is an escarpment there, a somewhat aberrant geological formation, jutting across Okinawa where it narrows toward a point after throwing off the Oroku Peninsula to the west and the Chinen Peninsula eastward. It rises just south of the town of Itoman on the west coast, the line of hills running through Yuza, just missing the town of Tomui and slanting down the east coast. All this area had been fortified by the 9th Division while it was still part of the Okinawa command, a job well done, like everything else by that division. In this area the Japanese General proposed to make his final stand.

The movement of troops and of such guns as could still be moved began on 26 May under cover of the rains and low clouds, and by the 29th there were nothing but the rear guards (one-fifth of each command) left north of the new line, except on Oroku Peninsula, where the naval guard troops remained to deny to the Americans the use of the big airfield, most important of all those on Okinawa.

The prospects of holding the new line for a long while cannot have looked hopeful to either Ushijima or Cho at this date. They had reorganized their formations, consolidating two of the regiments of the 24th into one (the remaining infantry regiment had but 800 men left), re-

ducing the number of battalions in the 62d by further consolidations, and bringing all such formations as engineers and transportation troops into the line as infantry. But the total strength hardly now amounted to as much as a division. This was insufficient for lines which, though well built, were nearly as extensive as those of Shuri, and the position was very weak in artillery, both in the effective large mortars and in machine-cannon. The

latter had borne the brunt of the American attacks and the former regrettably could not be moved through the mud. In

fact, this mud made all progress so very slow that American spotting planes, which persisted in flying in spite of the weather, often found guns and troops on the road and called down artillery fire which destroyed them. One transport command started to march with 150 vehicles and arrived with less than 30 after being under salvos from an American battleship.\*

Worst of all was the state of morale within the command. The naval guard troops on Oroku, who had not fought except for the single battalion that conducted the Banzai at the Horseshoe were in good shape.\*\* The rest were tired out, badly beaten up and hungry, their uniforms ragged. The losses, as usual, had fallen most heavily on the best and boldest men, and in the formations remaining there was a larger proportion of the shiftless Okinawan home guards than the General cared to see. It had not been possible to make the promised issue of sweet potato brandy on the Emperor's birthday on 29 April, and there was bitterness and whispering over this. Gen Ushijima had done his best to bolster the men's feelings by circulating on 20 May, just before the move to the south began, the story that an enormous landing of airborne troops had taken Yontan airfield from the Americans and the latter's lines of communication were now gone. (As a matter of fact, this was a magnification of a radio dispatch from Tokyo which told Gen Ushijima that the landing would take place. It

By Fletcher Pratt

This month's installment concludes Fletcher Pratt's series on *The Marines in the Pacific War*. As we have advertised, the whole series is contained, along with excellent illustrative maps, in the book, *The Marines' War*. This one-volume history of Marine operations in the past war belongs in every marine's library. Use the coupon on page 64.

\*It was *New York*; nearly 500 Japs went.

\*\*The state the Japanese command was in was illustrated by the movements of this formation. About 24 May they hastily retreated to Itoman in the south and had to be ordered back just as hastily before our troops began to tap at the roots of the peninsula. The change in plans undoubtedly represents some Japanese command argument of which we know nothing.



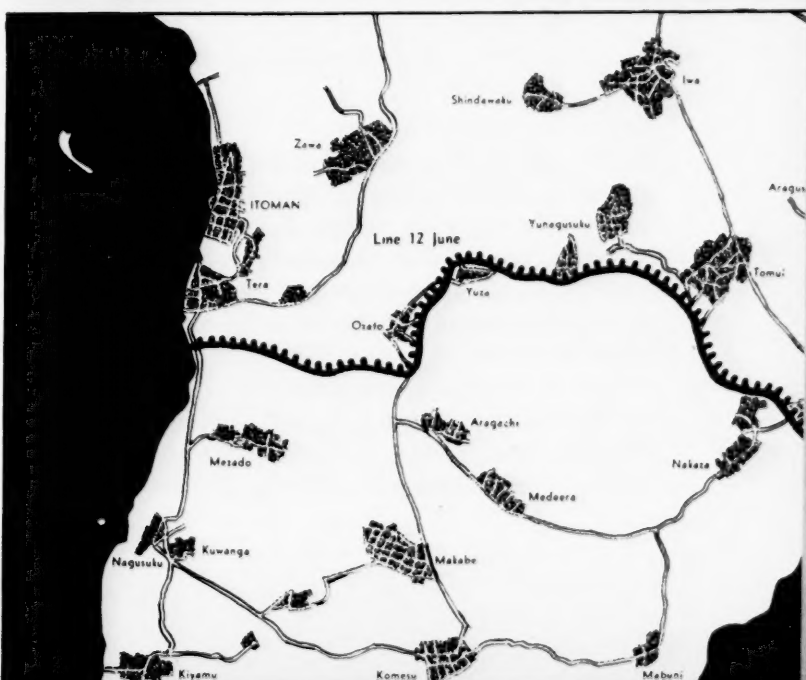
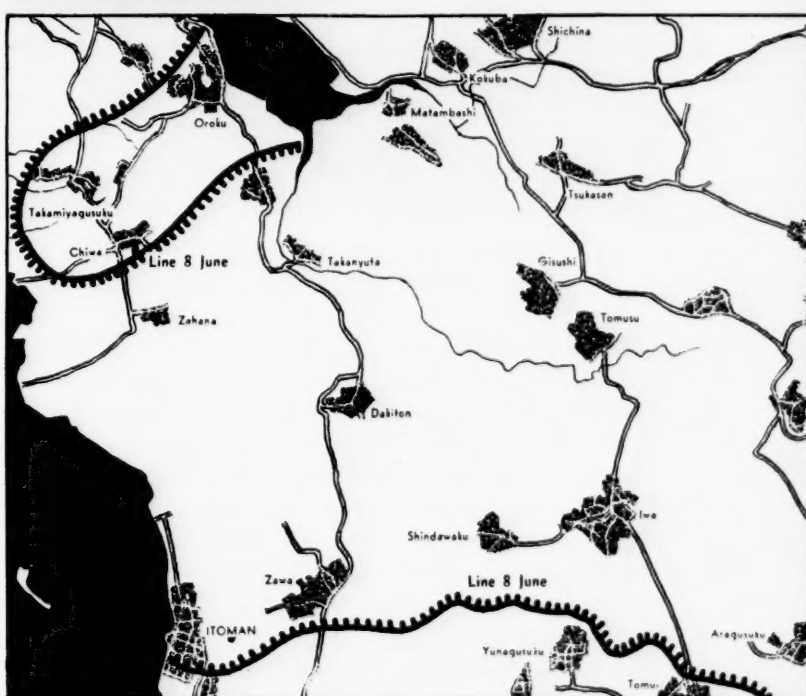
was not tried till the 24th and then there were only five planes in it. Four of them were knocked down by flak but the fifth reached ground and discharged ten Japs with demolition charges bound round their waists, who destroyed seven planes and damaged 25 more. Yontan was out of commission for the day but this was not retaking the field.) After the troops were established in their new Yuza-Dake, Yacju-Dake line another story was issued as an official bulletin. The troops on Okinawa had done well; they had now only to hold out till 20 June. On that date a great counterinvasion would take place near Kadena airfield, the old comrades of the 9th Division coming from Formosa and another fresh division from the China coast under elaborate naval gunfire and air bombing cover, while a great force of paratroopers struck behind the American lines and airborne troops landed to enlarge the holdings around Yontan field.

How much of this fairy tale was believed is uncertain. Being an official order, it had almost the force of an Imperial rescript and no discussion of the matter was permissible. What Ushijima himself was really hoping for, of course, was a new series of Kamikaze attacks on the ships offshore. There had been a big one on 24-25 May in conjunction with the attempt at Yontan. Sixty-five Kamikaze and 100 Tokobetsu were in it but their fighter cover was weak and most of the Army flyers engaged were conscripts rather than volunteers for suicide duty, a fact which caused MajGen Miyoshi, commanding the units of Kyushu, to protest to Imperial headquarters that such procedures were not in accordance with the true Kamikaze spirit.

Most of them went for the picket line, the better to cover the Yontan attack. They sank the APD *Bates* and badly smashed up the APDs *Barry* and *Roper*, the destroyer escort *O'Neill*, the minesweep *Spectacle* and the destroyers *Bright*, *Butler* and *Stormes*, with one LSM. The destroyers *W. C. Cole*, *Cowell* and *Guest* received lesser injuries.\*

The attack was thus a comparative failure and there seems to have been some heartburning in Tokyo about it, for Adm Ugaki staged another under his personal supervision on the night of 27 May, partly to cover Ushijima's withdrawal southward, and partly to demonstrate

\*To keep the record for the campaign straight, there had been several other Kamikaze hits in less coordinated attacks since 11 May, when the last big effort took place. Thus on the 13th the destroyer *Bache* got it bad, and the next day the old veteran carrier *Enterprise*, which had seen nearly every battle of the war, was hit by a Kamikaze that came out of a small bombing formation making a normal attack during a squall. She was Mitscher's flag at the time, the second one he had shot from under him. On the 17th the destroyer *D. H. Fox* was much damaged and on the 20th the destroyer *Thatcher*, the destroyer escort *J. C. Butler* and an LST, while the destroyer escort *Register* was less hurt. On the 18th the destroyer *Longshaw* on flycatcher duty off the southern part of the island, ran aground; the Japs put one of their 320mm mortar batteries on her and destroyed her.





Marines of the 1st Division wait for Japs holed up in cave to make a run for it. After their satchel charge explosion spirals overhead, the Marines moved in for pointblank firing.

that the correct method was to throw a minor force against the American picket line while the bulk of the suiciders pushed on to the anchorages. He sent out 60 Navy and 50 Army Kamikaze this time, at night with fairly good fighter coverage, and they did a lot of damage. The destroyer *Drexler* took two Kamikaze aboard and went down; the destroyer *Braine* also got two but survived; *Forrest* and *Shubrick* had major damage, so did the APDs *Rednour* and *Loy*, the cargo carrier *Josiah Snelling*, an LCS, a PSC and the command ship *Dutton*; less hurt were two more transports, another PC and another LCS, the destroyer *Anthony* and the APD *Tatum*; the destroyer escort *Gilligan* was attacked by a torpedo plane that came with the Kamikaze and hit by a torpedo, but it failed to go off.

## II

ON OUR RIGHT FLANK the 6th Division was now north of the deep and wide Kokuba Estuary from Oroku Peninsula with its important airstrip and its control of Naha Harbor, which the Navy desperately wanted, for there were still supply problems at the front and the swinging advance that began in the last days of May gravely complicated them. As the 6th circled round Kokuba Estuary, it accordingly wheeled right to face the range of hills that runs almost north and south to seal Oroku from the main island. The 22d Regiment was placed in line opposite these hills. The 1st Division's position

slanted past the rear of the 22d, its advance spearhead reaching the coast of the East China Sea on 7 June. On the very next day it began to get supplies by water across the beaches and pushed on toward Itoman in good spirits.

Meanwhile, the question of taking Oroku had arisen all up and down the chain of command. Some time before it had been foreseen that such a question would ultimately come. The Marine commands concerned (III Corps and 6th Division) thought that once the land exits had been sealed off, the place should be assaulted in a regular Marine operation, from the sea, since the outer ground of the peninsula was flat and the beaches reasonably good. Tenth Army was rather of the opinion that an attack through the hills was preferable. There were hardly any amphtracs left (out of seven battalions whose normal equipment was 100 each, not one had as many as 25 in working shape), and those that were left were battered and broken. There would also be difficulties about shipping for the heavy equipment, and the Navy had enough to do with its picket line and Kamikazes without being called upon to furnish close supporting fire for a new beachhead. Still, said Gen Buckner, the area fell within III Corps' zone of action and if it could find the physical means, the decision as to the tactical means was one that Corps could properly take. Gen Geiger of Corps in similar fashion forward-passed the decision to Gen Shepherd of division, and while the discussions were



**The difficulties of supplies was never completely solved. Streams, swollen by incessant rains, made vehicles almost useless as a means of moving water, food, and ammunition to front lines.**

going on, Gen Shepherd and his operations officer, the eupeptic Krulak, had been investigating possibilities. Patrols of the 22d had found the routes into the hill mass before them intricate and subject to a good deal of the fire usually encountered on Okinawa. On the other hand our reconnaissance landing from the sea face on the night of 2 June achieved a miraculous success, getting back without losing a man to report that the beaches were not mined, everything in the northwest sector of the peninsula was lightly held or not held at all, but that the Japs were digging industriously down toward the land face and women had been moved into caves in that direction. There were enough amphtracs to carry a regiment and enough LSMs and LCMs to carry the equipment. Decision then, for the seaborne landing—with the 4th Marines making it on the night of 3-4 June, on the tip at a place called Nishikoku.

A ridge thrown off from the island's central spine overlooks this landing spot from the south. The 4th should seize it rapidly to cover the landing of the 29th and the artillery behind. There is an island in the estuary, Ono Yama, where a two-span bridge from Naha city used to stand. The division reconnaissance company was to gain this simultaneously with the main landing to permit re-erection of the bridge and land transport down through Naha for purposes of subsequent supply. The remainder of the tactical plan was that as soon as the

29th landed it would work southwestward to clear the Kokuba shore and seize the long high ridge that runs southeast from Kakibana, dominating the estuary, while the 4th pushed straight in from its ridge protecting the landing, cleared the airfield, wheeled left down the southwest coast of the peninsula till it touched our lines at the base, then wheeled left again, back toward the 29th, driving the Japanese before it into a narrowing sack.

The job of assembling the supplies and troops for a divisional move that was only 36 hours from planning to execution was something fantastic, but it was well and thoroughly done, and the landing went off like a clock-work, two battalions of the 4th striking the beaches almost on schedule at 0300 on the 4th of June. One battalion pushed ahead to take the inland ridge, the other leftward to gain the nose of the big ridge below Kakibana. By mid-morning both were well up the slopes against opposition that was everywhere insignificant till the crests were nearly reached, when some mortar fire began to come over. All the little outcrops of the main hill were found tunnelled in the best Cho manner, but all vacant—Adm Ota had not enough men to hold both the beaches and the high ground in them where he had expected to be attacked. Ono Yama was ours by 0600; by evening there was a Bailey bridge from Naha to the island, the 29th was ashore, the lines were nearly 1,500 yards inland enclosing nearly half the airfield and casualties were few.



It was the next morning when the advance for conquest started, a peculiar battle, for if this collection of Japs lacked the artillery support those on the Shuri line had had, and if they were far too few to man all the elaborate installations, they had to balance these, two things not met with elsewhere—so many machine guns, salvaged from wrecked planes, that a fair estimate placed their number at one for every three defenders of Oroku; and a new type of rocket, jerry-built from an eight-inch shell. The thing sounded "like a locomotive from hell." Most of them soared out to sea with that noise which led the Marines to dub them "screaming meemies," but when one hit it exploded with an earth-shaking roar, usually after burying itself well in the ground, so that the physical damage was small. Very bad for the nerves, though.

That day the right flank of our line swung forward to take all but the last corner of the airfield, while the 29th gained most of its Kokuba-dominating ridge. The night had given Adm Ota time to recover a little from the surprise of finding Marines behind him and he had rushed a good many men out into the tunnelled positions. One of these nests, at the village of Toma, on the right-center, put up a long resistance to a battalion of the 4th. It was still nothing like Sugar Loaf, the enemy fire nearly all machine gun and mortar, and gains averaged 1,000 yards.

☛ ON 6 JUNE the 4th ran rapidly forward down the southwest coast of the peninsula with its right and the 29th made some gains to its left, but along the axial ridge at the center of the peninsula where the Japs were evidently deciding to make their main defense, there was little advance. Tanks found the ground too rough or too muddy and when they did get into action, it was discovered that the Japs had brought up a lot of 20mm machine cannon, almost as hard to deal with as the machine guns, because their firing ports were so small.

The 7th and 8th were days of slow advance, even on the 4th Regiment's previously fast-moving right flank. Adm Ota had shifted some of his troops to hold off the menace of this drive, and everywhere minefields and lack of roads made it hard to bring up armored support. On 9 June both the 29th and 4th broke through, the latter by the ingenious maneuver of using the Japs' own tunnel systems to work through bare hill crests when all the routes around and over them proved to be under fire from supporting positions. That day also the 22d began to attack and the squeeze was on.

It was not to be thought that the remaining four days of the fight were easy; they were days of the same crawling advance under machine gun and mortar fire, the same cave-sealing enterprises, that had marked all the rest of the Okinawa campaign. But the enemy's physical strength had been broken in the surprise and the hard fighting at the center of the peninsula (for he had lost

heavily trying to move troops around and still more when the caves at the center were sealed); and on 12 June his morale broke also. Surrender flags began to appear along the line and the surviving Japs were forced out into a region of paddy fields and mudflats along the upper edge of Kokuba. Interpreters tried to get them to give up, but most answered that they requested permission from the kind Americans to commit suicide. The permission was granted as the Marines on the high ground watched, dropping their guns to applaud if the suicide were sufficiently spectacular, like that of the pair who seated themselves on a quadruple demolition charge and touched off the fuse. The peninsula had cost us 1,608 casualties for one of the most neatly performed operations on Okinawa; the Japanese loss would not be far from 5,000.

### III

☛ WHILE THIS WAS GOING on the Kamikazes came back in a new method of attack, beginning on 3 June. It was supposed to provide a steadily flowing stream of suicide planes, day and night on end for a long period, and wear out the nerves of the defenders, that old Japanese concept dating back to Guadalcanal. They lightly hit an LCI on the 3d, a cargo vessel on the 4th; on the 5th the cruiser *Louisville*, the battleship *Mississippi*, and the destroyer *Anthony* and did some damage to the mine-sweep *Bauer*. On the 6th they crippled the latter's sister ship *Ditter* and on the 7th damaged the escort carrier *Natoma Bay*. Comparatively this was no success at all; his difficulties were beginning to catch up with Adm Ugahi and for all this four day attack he had been unable to get more than 20 Kamikaze and 30 Tokobetsu into the air. The Imperial Staff decided that Okinawa was now so nearly gone and the American air defense around the island had become so very civilized that it was no further use; the rest of the suicide flyers would be saved up for that invasion of the Japanese homeland which anyone with an ounce of prescience could see was on the cards.

However, the pressure was not yet off the American fleet; on 5 June the heaviest typhoon any man in it had ever seen swept across the ships and damaged them far more than any Kamikaze attack. The heavy cruiser *Pittsburgh* had 100 feet of her bow bodily wrenched off; on the carriers *Hornet* and *Bennington* the forward ends of the flight decks were all bent down, and of other vessels the escort carriers *Salamaua* and *Windham Bay*, the cruisers *Baltimore* and *Duluth*, the destroyers *McKee* and *Conklin*, were all so much hurt as to require major dockyard jobs. A long list of other ships, headed by the big new battleships *Alabama*, *Indiana*, and *Massachusetts*, and ending with no less than 11 destroyers, were hurt enough to go into anchorage for tender repairs. It was perhaps just as well that the Japanese Navy had been eliminated before the storm struck.

On land the gale was represented by high winds and



**Shuri Castle, Jap stronghold on Okinawa, was reduced to shambles by continual artillery fire and naval bombardment and aerial attacks. Very little of the fortress remained above ground.**

rain that did not seem much more normal to Marines who had been under the May downpour. Under those rains the 1st Division was pressing on in its break to the coast, meeting in resistance only little pockets of Japs who made movement dangerous, the division so much hampered by problems of supply that air drops were repeatedly asked for. By the evening of 7 June the division was in the upper end of Itoman (where a little airstrip was set up on a road so hospital planes could evacuate the wounded) and facing a small, muddy, sluggish stream called the Mukue Cawa, beyond which rose the steep outcrop of Kunishi Ridge, sheltering the town of the same name. The 7th Regiment was on the right next to the sea, with its zone of action including this ridge, which is flanked on the southwest within easy machine-gun range by another and larger ridge called the Mezado. The 1st Regiment was in line eastward, opposed to a

hill bearing simply the number 69, the 5th in reserve. The ground behind was so gelatinous that the 37mms had not been brought forward and neither had self-propelled guns; the tanks were well behind.

That day there was an attack; the infantry of both regiments worked across the Mukue and dug in on the slopes of their respective hills, but every patrol found this was a main Japanese battle position that could not be taken without supporting weapons. The 1st Regiment was also getting fire into its flank from Yuza Ridge, most of which lay in the zone of the 96th Division, next door. June 9 was accordingly spent in improving roads, getting tanks forward and providing means for them to cross the muddy Mukue. The main attack was for the 10th, with the 1st Regiment to take Hill 69 and the outer nose of Yuza, the 7th to assault Kunishi.

That assault was a brutal business. The 96th Division

was in difficulties with a similar maze of hills and could give little help against Yuza, where one company of the 1st lost 75 men out of 175. Hill 69 was only scratched at, not taken, on this day. Both regiments were in fact not up to their old battle efficiency—full of new replacements, many of them not thoroughly trained. There was a good deal of Jap antitank artillery around which, with the mud, kept the tankers from giving effective support and the Japs had so much fire on the Mukue Gawa in the 7th Regiment's zone that the men who infiltrated across it could neither be supported nor supplied.

On 11 June the 1st Regiment gained its two hills and dug in, but was now so much ahead of the formations on both flanks that it must stand. That night came an odd incident which may be taken as the first real sign of Jap breakdown. A long file of Okinawan civilians wrapped round in dirty blankets began to come through the lines of the 1st. They had almost passed the fire positions when a sharp-eyed sergeant discovered that every fifth man in the lineup was a Japanese soldier with grenades under his blanket and a demolition charge around his middle. Of course they had to turn loose the machine guns.

At Kunishi the 7th could make no progress on either 10 or 11 June. On the second night Col Snedeker of the regiment turned the Japs' own tactics around on them with a night attack and succeeded in getting two companies onto Kunishi crest at 0300. But after daylight broke they might as well have been in Kamchatka, for all the avenues up to their post were covered by the most intense fire, they could not advance or retreat or be supported. Later in the day the somewhat desperate device of bringing small groups of men up the slope as passengers in tanks was hit upon. It succeeded so far as bringing in a handful of reinforcements but the men on the ridge were lying out on a hot coral rock that offered the most determined resistance to digging, under constant fire from Mezado and other ridges in the rear. Air supply was not much good, the Japs getting most of the drops, and an observer from our side might have thought the battle at a standstill. It was not really so; the dribblets of reinforcement kept coming in by tank, and as they did so the party on the ridge expanded inch by inch down the sides, at each few yards gain blowing a couple more tunnels or silencing another mortar. The result was that the Japs grew gradually weaker, and after a rough three day battle, the place could be called ours by the night of 16 June.

The capture of Kunishi brought about a new distribution of forces in III Corps. The 1st Division was under strength both in numbers and physical constitution, while Mezado loomed on its right flank, an obstacle as formidable as any yet faced. Gen Geiger sent the 6th Division back into battle to capture this ridge; the 5th Regiment relieved the 1st and the fresh 8th Regiment

of the 2d Division, which had been sent for as far back as the fall of Shuri, was brought into line between the 5th Regiment and the 6th Division. At the same time the boundaries of III Corps were somewhat expanded eastward to allow for the pinching out of the 96th Division, which had taken extremely heavy casualties, had fallen behind the other formations and was also in much need of relief.

The 6th used its 22d Regiment in the initial assault of 17 June, which reached the crest of Mezado; presently the other two regiments had to be put in, but now they and the revamped 1st Division drove forward rapidly against resistance that was everywhere crumbling into little uncoordinated pockets. The 1st broke through to the coast on 19 June; the 6th cleared its area to the waters of the Pacific two days later, when it was announced that all organized resistance had ceased.

In those last days of Okinawa the final communication lines went out and Japanese morale, long on the teetering edge, collapsed. Surrenders, which began as a trickle, became a flood. A four-man patrol from the 6th Division captured over 150 after their officers had bowed politely, handed over their swords, shot the women with them and committed suicide. In the long run the number of prisoners came to 7,401, of whom about 4,000 turned out to be Okinawans in uniform. The counted enemy dead were 107,539; it was estimated that there were another 23,000 down in various caves. Tenth Army, after elaborately going over the Japanese records, concluded that 72,000 native Japanese troops had been killed in action with 20,000 Okinawan troops; the remaining 42,000 killed would be Okinawan civilians, though in this case and under the conditions of cave warfare it is extremely difficult to determine who is a soldier and who is not.

One of those killed on our side was LtGen Simon Bolivar Buckner—in the very last act of the campaign, on 18 June, as he stood in an observation post near Mezado Ridge, when a shell dropped right on him. Of others the Army lost 4,379 killed, 17,558 wounded; The Marines, 2,534 killed, 13,523 wounded; and the Navy offshore to Kamikaze and suicide boats, 4,907 killed, 4,824 wounded, for total casualties to our side of 48,025—about which it is to note that the Navy had more killed than either of the other services, despite all those caves and the hard fighting ashore. Since the Navy's casualties form part of the American losses at Okinawa, it is fair to include on the Japanese side of the balance the fact that they lost nearly 7,000 airplanes during the campaign with all their crews; and that the last seaworthy ships of their Navy went down.

#### IV

☛ IN WAR there is no fully typical combat or campaign, only individual cases. Yet the Okinawan campaign, last and largest of those involving the Marines in the Pacific,



was typical even among the campaigns of the Japanese war. It was the largest land operation undertaken against Japan. (MacArthur in the Philippines employed more American troops and had more Japanese to deal with, but in a series of operations, not any single one.) Yet in spite of this massiveness and the number of troops employed, it was a campaign in which there were no decisions of maneuver beyond those at the very beginning. After the 19 April attack broke down and Gen Buckner decided to encircle the Japanese fortress at Shuri by its two flanks, everything else became a matter of detail, a question of relieving troops or of logistics. He did succeed in breaking down those flanks and there is not, in the long view, very much that can be said against his conduct of the operation, unless criticism chooses to rest on the decision not to make a landing on the southern beaches early in the game. That decision was very severely criticised in the public prints at the time—so severely that Adm Nimitz himself felt called upon to answer the strictures; but even in this case there is probably something in the oft-repeated contention of Tenth Army Staff that the supply difficulties of such an operation would have been insuperable.

Among all the abnormal features of the Okinawa campaign there is none more striking than the capture of 7,400 uniformed prisoners. This is more than were taken in all the rest of the Pacific war put together. One may make deductions for the fact that many of them were Okinawans; one may make more deductions for the fact that Gen Ushijima overplayed his hand in the propaganda department. At the end not even Japanese would swallow that story about fleet and army of relief. The figure is still enormous; it still represents a genuine breakdown of morale.

Or perhaps it would be more accurate to say that it represents a seepage into the lower levels of the breakdown that had taken place at the Cabinet level as long as the invasion of Saipan and the Battle of the Philippine Sea. By time the Okinawa campaign began, indeed, the Koiso government was out of office, betrayed from within. In September of 1944, before the invasion of Peleliu and the Philippines, Adm Yonai the Navy Minister in that government, had bidden Adm Takagi to



**More prisoners were taken in this campaign than in all the rest of the Pacific battles put together. Ushijima overplayed his propaganda.**

resume his studies on how to get Japan out of the war. There was a difference in these new studies. The emphasis now has changed to rest on the point of how to persuade the Army heads to agree to ending the war on any terms that could be had. Nor did Yonai stop there. He held consultations, members of the Imperial Household became involved, and in February of 1945 the Emperor called in the Jushin and began securing from them opinions that Japan was at the edge of defeat and must seek to peace at once.

The strains thus set up were more than Koiso could stand when the landing on Okinawa came. Cabinet Ministers refused to serve under him; his government fell. The new one set up on 8 April, with Adm Kentaro Suzuki at its head, found the pacifiers in the majority. They continued their pressures on the war makers till that date in August when the appearance of the atom bomb offered a heaven-sent opportunity to save face. (Some other device would have been fine had there been no atom bomb.) There was a conference between high cabinet members and the Emperor. One by one the cabinet men spoke for the accepting peace on any terms till Gen Korechika Anami reached, the Army Minister and representative of the Manchuria Gang. He explained how many million undefeated soldiers were still ready to defend Japan, how excellent were the chances of wearing out American patience in an unending war. When he had finished the Divine Presence asked simply, "Are you lying to me again?" Anami made the obeisances without another word, went out and committed suicide—and Japan surrendered.

USMC

# In Brief

*The Air Force has chosen titles for its "airmen" to distinguish them from Army enlisted personnel. For warrant officers there would be four grades—chief airman and senior airman, first, second, or third class. If the new ranks are approved, enlisted rating will become senior air sergeant; air sergeant, first class; air sergeant; airman first, second, third, and fourth class.*

*The Air Force has announced that it is ground testing a tiny hitch-hiking, jet propelled fighter designed to ride as escort for super-range bombers. The miniature fighter is the McDonnell XF-85, a radical design adapted to stowage in the bomb bay of a B-36, which is more than 10 times as large. It has a wingspan of 21 feet and is but 15 feet long. A Westinghouse 24C axial flow jet engine capable of 3,000 pounds of thrust gives the jet "parasite" an estimated speed of 650 mph.*

*The Navy is experimenting with a twin-engine flying boat that can take off with a quick, short run, out-range present patrol planes and land safely in rough seas. Known as the Martin XP5M-1, it is similar to the well-tried Mariner, also built by the Glenn L. Martin Company. First flight tests have been completed at Baltimore, it was announced recently. The most striking feature of the plane is its long "after-body" hull which is expected to improve performance materially, in comparison with other seaplanes.*

*A new aviation officer procurement program, which gives approximately 650 college graduates an opportunity to enter the Regular Navy as commissioned officers and to receive 18 months flight training, has been adopted. After two years total service, officers who successfully complete flight training will be permitted to request retention in the Regular Navy as career officers. Qualified Naval Reserve officers, on active or inactive duty, will be permitted to apply for the new program, provided they have not previously failed any military flight training program. Reserve naval aviators, including those in the Organized Reserve, may also apply.*

The Joint Chiefs of Staff have approved a *Naval Aviation program utilizing 14,500 aircraft*. In May the Navy had 10,900 active aircraft, compared to the 14,500 active aircraft considered necessary. During the coming fiscal year the Navy plans to receive 1200 new aircraft and withdraw 2400 from the Navy storage pool of aircraft left over from the war. The Navy has 2500 combat aircraft in the fleet and plans to increase this amount to 3300, all carrier type planes.

*An air-transportable floating service dock for seaplanes* has been developed by the Navy Bureau of Aeronautics. The portable dock, composed of nine pneumatic float sections connected in a "U" and covered with a plywood deck, is designed for use at advance bases where seaplane maintenance facilities are inadequate or non-existent. The entire unit, which weighs about 5,600 pounds, can be stowed aboard a Mariner Navy patrol bomber seaplane, flown to an advance base, and then assembled and towed to any desired position.

The Naval Air Transport Service and the Air Transport Command were merged into the *Military Transport Service* on June 1, Secretary of Defense James Forrestal announced recently. The new organization now operates all the routes and facilities formerly operated by the air transport services. Three months of planning preceded the operational merger of the Air Force and Navy air lines, and the consolidation will continue over a period of years with the elimination of duplicate air terminals, trips, and facilities found to be unnecessary.

*Development of the hollow steel blade* has opened up new horizons of usefulness for the aircraft propeller, according to engineers at the Hamilton Standard Propellers division of United Aircraft Corporation. Six advantages offered by the hollow structure are: In sizes above 12 feet in diameter more than 900 pounds on a four-engined airplane is saved; greater design flexibility; greater control of vibration; lighter, stronger and simpler retention system; more efficient de-icing system, and increased over-all strength.

*Fresh vegetables for use with Army rations in overseas installations where they cannot otherwise be supplied are being produced successfully and in large quantities by the employment of hydroponic gardening. The hydroponic garden method (also known as nutriculture, water culture, and chemiculture) consists of beds of gravel, stones, cinders, or other inert materials in which vegetables are grown by supplying them with water and the nutrient chemicals necessary for their growth.*

*Promotion authorizations to ranks in the first three pay grades henceforth issued by Headquarters, Marine Corps, will include a number indicating each individual's lineal precedence relative to others having the same date of rank, lowest number of a given date taking precedence. Commanding officers will enter the precedence number assigned to the individual on his warrant and in his service-record book to establish and maintain a lineal precedence roster.*

*A new high-speed performance patrol flying boat, whose four propeller turbine engines at takeoff develop more horsepower per pound of airplane weight than some modern fighter aircraft, is now being constructed for the Navy by Consolidated Vultee Aircraft Corporation at San Diego, California. Designated the XP5Y-1, the new patrol plane has been designed for missions of long range day and night search of sea areas, rescue operations and anti-submarine patrol.*

*The Chance Vought Aircraft Division, United Aircraft Corporation, has been selected by the U. S. Navy to move to larger and more efficient manufacturing quarters at Dallas, Texas. The transfer from the Stratford, Connecticut, plant will require from a year to 18 months and Chance Vought will continue operations at Stratford on a full-scale basis, manufacturing F4U-5 Corsair fighter airplanes until late in 1948. The plant in Dallas was occupied during the war by North American Aviation.*

*The Navy plans to construct the world's largest radio antenna, two miles long and one mile wide on steel towers more than 800 feet high, near Seattle, Washington. It will provide communications for Naval defenses in Alaska, the Aleutians, and the Pacific Northwest.*

The Marine Corps Institute recently began distribution of its new *Handbook*. During 1947 the Institute received a total of 34,000 new enrollments and over 173,000 individual lesson assignments for grading. The new *Handbook*, which contains a brief description of the 203 courses and information concerning enrollments requirements, will be distributed to all marines in the near future. Members of Organized Marine Corps Reserve units as well as members of the regular establishment are eligible for courses free of charge.

*A camera which can take pictures at the rate of 100 million a second has been developed at the Michelson Laboratory at Inyokern, Calif. This camera will enable scientists to get accurate pictures of things that happen far too fast for the eye or for any photographic instrument heretofore devised. The instrument consists mainly of two light-polarizing lenses similar to anti-glare glasses and a high voltage electrical circuit.*

*Ninety ceilometers, electronic air safety devices, which measure and record the altitudes and densities of clouds, are being produced at the General Electric Company at Schenectady, N. Y., for the Army and Navy. A super-high-intensity quartz mercury lamp mounted at the focal point of a searchlight mirror, sends skywards a beam of light. Clouds overhead reflect the beam back to earth, and a detector unit automatically analyzes the reflections, and transmits to a recording device a record of cloud heights.*

*The world's largest firing chamber, used to test machine guns and light cannon under conditions similar to those encountered in combat flight at 50,000 feet, has been put into operation at Aberdeen Proving Ground, Maryland, the U. S. Army announced recently. Special instruments record the speed of each bullet and cameras photograph it in flight.*

*Midshipmen and Naval Reservists will visit African and Mediterranean waters during summer cruises, the Navy announced recently. A group of 13 ships, led by the 45,000-ton *Missouri* and the new 45,000-ton aircraft carrier *Coral Sea*, will tour South European ports with 3,183 midshipmen and Reservists from June 6 to July 21.*



# Wanted:

## An Ammunition and Pioneer Platoon

✻ WE HAVE REORGANIZED THE DIVISIONS OF THE Marine Corps on the J tables. We stress the ability of the BLT to operate by itself as a little expeditionary force, or equally well alongside other similar battalions in a division. Mobility and independence are properly considered as highly important. The planning for the J Tables drew heavily on wartime experience as adapted to the Marine Corps' role in the atomic age; it is the T/O under which we would enter combat if the next war or expedition came upon us tomorrow; is it new and up to date but it has not solved one major problem which confronted every combat battalion commander in the last war and which will again be met in the next one. Every combat battalion commander has at one time or another desperately needed the personnel for a better ammunition re-supply and has needed someone with the know-how to perform small but important construction jobs which, in camp or in the field, are too minute to warrant taking the time of trained engineer or pioneer battalion marines. Different battalions solved the problems in different ways, but they were all temporary and unsatisfactory, there simply were not adequate men.

The Marine rifle battalion is no longer a rifle unit designed for patrols in small wars and having no mobility other than the feet of the individual marine. We have become a balanced fighting entity with greater amounts of transportation (and wheels mean trouble going across country), more organic combat equipment, and infinitely more fire power with its attendant problem of increased expenditure. Having so grown, the needs of the Marine rifle battalion have begun to approach those of the Army battalion which is designed for extended cross country combat. Marine officers schooled by the Army or otherwise exposed to its tactical doctrine, realize that the Army T/O provides realistically, as ours does not, for the exigencies of land warfare, particularly in the matter of ammunition re-supply and the performance of those small but essential engineering tasks necessitated by the use of vehicles and the modern whimsy for the use of land mines. The Marine Corps theoretically provides for

ammunition re-supply by the inclusion of one-quarter ton truck and trailer per rifle company and another for the 81mm platoon of Headquarters. In pure theory these vehicles, plus the battalion supply personnel, plus the battalion transport, plus the division ordnance people, and plus those nebulous "Privates, (000), mess duty," should be sufficient transportation and hands to keep the bullets up with the troops. In theory too, the ammunition carriers of the mortar and machine gun platoons should provide sufficient personnel to handle that resupply, but all of

this is, unfortunately, only theory. If we look at the actual picture which obtained in the Pacific and which may reasonably be expected to be true in any future fight, we find that the facts were vastly different.

In any amphibious operation conducted with limited shipping, the battalions were invariably hamstrung in the matter of transportation. Too many of the organic vehicles were old and worn out, ready for survey. Another limiting factor was the space available about APAs and AKAs. The battalion in the latter stages of the Pacific war had two one-ton trucks but their condition after being carried from one base area to another and run over South Pacific roads was often no better than that of the jeeps and further, their numerous rear area duties for the S-4 made their availability for ammunition re-supply in a moving situation doubtful. The personnel situation was equally far from the plan envisioned by the T/O. Battalions invariably entered combat understrength in spite of the G-1 annex to the administrative plan which called for a 5 per cent excess. Supply personnel were often decimated by the necessity for leaving men back with the rear echelon, by wounds and fatalities, and by 24-hour a day operation. The moving and operation alone of supply installations by hard pressed S-4s called for prodigious ingenuity and hard work. Battalion headquarters companies had few available men to lend to the S-4, any excess were needed for local security of often a forward and rear CP, as wiremen to keep the W-110 moving with each displacement, as litter bearers, and as S-2 patrols.

*By Maj Henry Aplington, II*

Rifle companies in combat decimate through battle and non-battle casualties at an alarming rate, and company commanders attacking or holding an over-extended front are very loath to send able bodied men to the rear, no matter how drastic their need for ammunition, food, or water. The battalion commander was confronted daily with the problem of finding the working parties from the units of his depleted battalion. The solution to the necessary movement of ammunition to an area immediately in rear of the assault companies is to provide personnel with the responsibility for that re-supply.

❖ THEORETICALLY, THE BLT is an infantry battalion reinforced by sufficient service and supporting troops to make it a self-sufficient combat unit. Theoretically, the necessary engineering and pioneer tasks are performed by the attached engineer and pioneer personnel, or by personnel of the battalion under the expert guidance of those specialists. When the battalion is operating as a part of a division, those tasks are performed by the division engineer on request. This system looks good on paper, but looking at the manifold duties of these specialists in combat, the average battalion commander hesitates to request their services for minor jobs in his area. He needs them but pulling them away from their major jobs to solve a minor problem is far from being to the good of the operation as a whole; and there is always the lingering belief that his request will be refused anyway. If expert advice and supervision only is required, the battalion commander is again confronted by the same man power shortage which he met in the case of ammunition re-supply. Like that ammunition problem, the construction problem can be solved only by supplying the battalion commander with the men for the job.

These minor tasks, while often not of great importance to the big picture, are of vital importance to the infantry battalion. In wooded country jeep trails must be driven through the brush, always there is the need for bridging or cutting down the steep sides of streams for the passage of vehicles; minor roads need improvement and maintenance, and drainage systems can mean the success or failure of the battalion's supply route. Construction personnel who know how are at a premium even in a base camp where a battalion is required to construct and maintain its own heads and showers, galleys, mess halls, and drainage. There are never sufficient construction personnel in a division to perform all of the construction and maintenance requiring expert attention.

Throughout the entire recent war the Marine Corps was fortunate in its little contact with enemy land mines. Nowhere in the Pacific did we meet the thorough mine fields which the German Army left behind them through Africa and Europe. As a result, our antimine tactics and



Combat troops are often pulled out of front lines to re-supply food, water and ammunition stores.



Construction personnel are at a premium to build and maintain their own heads, showers, and galleys.



**Duties of the A&P Platoon would include minor road repairs, bridging of small streams and ditches, repair of small bridges and culverts, and clearing trails for movement of supplies.**

antimine personnel were held to a minimum and a few experts could well handle those which were encountered. The battalion commander was not required to furnish personnel to de-mine roads and routes of approach nor to conduct extensive training in that technique. Had he been, the personnel problem would have arisen to plague him as it did in the ammunition and construction questions. We got out of that one easily; in the next war we may not be so fortunate. At least we must be prepared for European-type mine warfare on a large scale.

☛ THESE PROBLEMS, ammunition re-supply, construction, and mine laying, detection and removal, have been met in the Army infantry battalion by the inclusion of an additional platoon in the battalion headquarters company; it is the ammunition and pioneer platoon, FM 7-20, the Infantry bible, says that the mission of this platoon, "... is concerned with the ammunition supply of the battalion, the execution of simple field engineering tasks not requiring the technical training and equipment of engineer troops, and the installation and breaching of mine fields." Of the platoon's ammunition duties it says, "In combat the platoon leader makes available to the battalion S-4 such portions of the platoon as is necessary for ammunition supply. The platoon operates the battalion ammunition service ... loads and unloads vehicles, and when the situation does not permit the transportation of ammunition by weapons carrier (Marine Corps please note—Author) beyond the battalion ammunition

supply point, carries ammunition forward by hand to the company areas. . . ." Describing the pioneer work, it says, "The pioneer duties of the platoon include minor road repair, bridging of small streams and ditches, temporary repair of small bridges and culverts, making ravines and ditches passable, marking of routes and localities, . . . and execution of such field expedients as are necessary for the road and cross country movement of the battalion vehicles." Concerning the installation and breaching of mine fields, it says, "The platoon will be prepared to lay, mark, and record mine fields; recognize all types of mines . . . disarm, lift, and destroy activated . . . mines; and breach extensive mine fields. The platoon is furnished with portable mine-detector sets." The platoon leader functions as Battalion Pioneer, Munitions, and Gas Officer and assists S-4 in the installation and operation of the battalion ammunition supply point. It all appears simple, logical, practical, and very desirable.

Adapting the platoon to the Marine T/O would be a simple process and one which appears necessary if the Corps is not to be confined to operations within a very few miles of a beachhead. The training is prescribed by a Mobilization Training Program published by the Infantry School at Fort Benning and that training has been proven in combat. It only remains for the Marine Corps, if it will adopt this excellent unit, to adapt its duties to our amphibious role and to make such modifications in its T/O as are applicable to the Corps. A suggested Marine battalion A&P platoon T/O would con-





**Lack of adequate personnel to re-supply front line troops often forced battalion commanders to send combat troops to the rear to haul water, food, and ammunition by foot over jungle trails.**

sist of one officer and 30 enlisted men organized into a platoon headquarters, an ammunition section, and a pioneer section, each section consisting of two squads and all hands trained in ammunition, pioneer, and mine work to make the squads interchangeable to meet any situation. The T/O would show:

#### *Platoon Headquarters*

- 1 Lieutenant (1331) (engineer officer) platoon leader.
- 1 Technical Sergeant (812) (infantry chief) assistant.
- 1 Sergeant (533) (engineer demolition specialist).
- 2 PFC/Pvts (345) (light truck driver).

5

#### *Ammunition Section*

- 1 Staff Sergeant (505) (ammunition technician) section leader.
- 2 Corporals (505) squad leaders.
- 10 PFC/Pvts (521) ammunition handlers.

13

#### *Pioneer Section*

- 1 Staff Sergeant (059) (engineer construction chief) Section Leader
- 2 Corporals (059) squad leaders.
- 10 PFC/Pvts (521) pioneers.

13

31 Total.

For transportation and equipment, the platoon would be equipped with one one-quarter ton 4x4 truck for reconnaissance and messenger work; one one-and-one-half ton 6x6 truck and one one-ton, two wheeled trailer to carry the ammunition and the equipment, and the necessary construction tools, demolitions, mine detectors, and marking equipment.

✿ WITHOUT A DOUBT, every combat battalion commander will pick flaws in the proposed T/O and have other suggestions based on the terrain over which he fought and the conditions which he encountered. All combat men have a solution, but not necessarily one which agrees with other combat men. This does, however, offer a starting point toward solving the ever present problems of ammunition and construction and the potential one of anti-mine warfare.

The idea is sound, it has been proven in combat from the mountains of Tunisia to the ridges of Okinawa. It was used in the jungles of New Guinea and on the plains of France. Wherever the Army fights, the infantry battalion commander has the platoon to be used when and as he needs it. It is good, and after studying the problem and the solution proposed to solve it, it is believed that the Marine battalion commander may well hang out a sign reading, "Wanted: An Ammunition and Pioneer Platoon."

USMC



# Battle Decorations

By LtCol Robert E. Cushman

“A MAN WILL FIGHT LONG AND WELL FOR A LITTLE piece of colored ribbon.” Since approximately those words were spoken by Napoleon many years ago, the field of battle decorations has expanded considerably. The principle of human nature upon which the idea of award-ind decorations was founded has not changed, however. Proper recognition of bravery is still an extremely important and effective means of maintaining morale and fostering the growth of the tradition of courage and its resultant esprit de corps. The policies which are set for the purpose of governing awards and decorations are, therefore, also important. It is time we reviewed the mistakes of the past war in a constructive way to see what improvements can be made, for I believe we all realize that the system was not perfect and many gripes resulted.

Let's examine some of the more popularly voiced grievances and then see if there appear to be constructive suggestions which might prevent their repetition in the future. Probably the first and foremost trouble was the seeming variation in policy in relation to awarding decorations for heroism. There was an overall variation, taking the war as a whole, between the beginning and the peace; there was a variation between the services; and there was a variation in requirements for the same medal at different times.

Perhaps the seeming variation in policy between the beginning and end of the war was due to the changing composition of the review boards rather than a deliberate change in policy; but whatever the cause it seemed evident to the troops that it was becoming harder and harder to get a medal—any medal. The feeling grew up that regardless of how rigorous the requirement was for an award, that at least the standard should be the same throughout. It not only became harder to get a high ranking medal, it became harder to get any medal at all for deserving marines. The Bronze Star, which was apparently designed for those many minor acts of bravery performed by privates and other front line troops on any

battle field, was becoming more and more a staff decoration and in many cases was being refused to the troops, the latter being cut down to letters of commendation in many cases. Then, of course, the variation between the standards set up among the services was extremely evident. While Marine battalion commanders on Bougainville were getting Bronze Stars, an Army cook was given a Legion of Merit for setting up a bakery in Melbourne, Australia, and it was so publicly announced in print. Undoubtedly there were instances where the injustice occurred on the other side of the fence. Be that as it may, the fact remains that there should be no variation in favor of any service. A man can be just as brave in one as the other and the reward should be the same. Finally there were the variations in the requirements for the various medals. To qualify for a Navy Cross at the end of the war required, seemingly, an act of greater bravery than at the beginning of the war. The same held true for the Silver Star. In earlier days a conspicuous staff officer might get a Legion of Merit for one campaign, by the end of the war it took two or more. This, of course, does an injustice to those who get to war late, and whether it was a tightening up of the boards, a change in personalities involved, or overall policy it did not help morale.

Next in line for criticism was the amount of red tape involved in obtaining awards. Many were the cases in which the man who was recommended for a medal in one campaign was killed in the next battle months later without ever receiving his decoration. Toward the end of the war certain subordinate commanders were allowed to award some of the lower ranking decorations, which afforded some improvement, but not enough. To be most valuable, an award must follow closely on the heels of the deed for which given. The submission of innumerable copies of precisely written recommendations, which must then slowly pass in review through a number of successive boards, militates against this desirable prompt-

ness of awarding decorations. This is even more understandable when it is realized that these recommendations must be typed, for the most part, in lower echelons of command which have only a few overworked typewriters which are usually busy trying to put out a complete action report on the recently completed campaign at the same time. And to make it worse the higher headquarters often demand typographical standards normally reserved for the records of proceedings of courts-martial—and these standards must be met under field conditions!

A further fault applicable to the subject of recommendations became evident as the war moved into its final period. The boards which passed in final review upon recommendations, particularly of the higher ranking medals, were remote from the scene of action and received the recommendations long after the action had been completed. Although a few of the members were officers ordered to the board for duty from participating divisions, such members, of necessity, were usually from the division staffs rather than from smaller units. Officers attached to the latter were too busy training for the next campaign or had become casualties. Hence the only real familiarity with the act under consideration for an award which could be reached by such a remote board was through the medium of the written recommendation describing the deed. The only possible result occurred—the basis for awards became the prose writing ability of the recommending officer. The company or battalion commander who could describe the brave act in the most glowing terms and with the most colorful and descriptive adjectives found that his recommendations were being approved as submitted rather than “cut down” to the

next ranking award. This made for inequities in decorations for almost exactly identical feats of arms.

Probably one of the most harmful situations in regard to morale of the troops was the one to be mentioned now. And that was the difficulty of getting a decoration for an enlisted man. One rather stern school of thought seemed to maintain that almost anything a private did in combat was simply his duty and was not, therefore, “above and beyond the call of same.” True, there were others who felt that some recognition should be made of every front line marine and that an award of the Bronze Star should be made almost automatically to all participants in close combat, but in general, the views of the first group seemed to dominate. It might be added that there is a great difficulty in obtaining material upon which to base recommendations for such marines. Under danger almost constantly and performing in an almost routine manner the highly courageous feats of taking pillboxes, storming caves, fighting off counterattacks, and other such deeds common to the assault of a defended beach, it is almost natural that familiarity should breed contempt and each marine sees nothing of note or worthy of particular mention in the actions of either himself or his comrades. At such times his primary interest is in getting the job done and of coming out alive. Furthermore, in a tough fight, many possible eye witnesses become casualties. And so it happens that after the fight when the call for recommendations goes forth and eye witnesses are sought, there is practically (and literally) a dead silence concerning the front line marine. Most of the platoon leaders who could be counted upon to spot the outstanding acts and recommend them with some judge-

“... An award must follow closely on the heels of the deed.”







... Our surplus of heroes was embarrassing to our Allies.

ment have become casualties. The company commanders do not usually see enough individual acts to be able to recommend all who have performed them. And so the personnel for whom the whole system of awards and decorations was devised to benefit actually receive less recognition than any other group. Something must be done to alleviate this condition.

Closely related to the above is the question of the "automatic medal." In an attempt to solve the problem of getting medals to deserving front line marines, the solution was suggested of giving a Bronze Star to all the infantry survivors of three, or some other set number, of campaigns. This idea died aborning. Such was not the case among flyers however, who received awards based upon the number of flights, opposed by the enemy, which they had completed. Regardless of the merits of the two systems, one system should be decided upon and applied to all. There are other examples, which while not strictly in the field of decorations, concern the same principle. These relate to the automatic ribbons for service which were given. One ribbon to show the theater, to which battle stars could be affixed, would seem to be of value. However, ribbons for service prior to a certain date, ribbons for service in the Zone of the Interior (United States), etc., did not reflect any particu-

lar credit upon the wearer and in some cases subjected him to ridicule. The fact that individuals referred to these awards by such names as "Spam Ribbon," "Draft Dodger's Medal" and similar descriptive though disrespectful titles indicates the low esteem in which they were held by the Marines in general. Incidentally, probably one of the greatest violations of the principle that the standard required for any particular award should not vary occurred in the case of the American Theater ribbon. At the beginning of the war it was rather rare and when worn usually indicated that the individual had earned it by some rather rough and hazardous duty guarding the convoys in the Atlantic. Then, lo and behold, the requirements were changed and personnel who never left the States qualified for the award. Conversely, those who had spent their time overseas to the point of not acquiring a year's time back home couldn't even wear it. The effect upon those early winners of the award is evident—one of great dissatisfaction.

This subject of automatic awards also introduces the idea that we have too many ribbons. Instead of begetting a deep feeling of pride in the wearer, which should be one of the primary purposes of giving decorations, the indiscriminate awarding of ribbons of various descriptions cheapens the entire procedure. People refer shamefacedly to their "fruit salad." Officers who can get away with it leave off the bottom two rows of meaningless ribbons and wear just those indicating decorations for bravery or service. Men who never heard a shot fired in anger rated more ribbons than

many of our Allies who had fought for six years in close proximity to the enemy. In order for the public to know who was outstanding in the performance of battle field duty, the meaning of each ribbon must be memorized. These are the results of prolific distribution of ribbons—none of them desirable.

It is easy to find fault; it is more difficult to find sound remedial measures, but this subject is of sufficient importance to warrant an effort. With that in mind there will follow some suggestions which it is believed might improve the situation in the future.

First is the question of the policy in relation to the requirements for various decorations. Recommendation should be made that this be standard throughout all services. Within our own province it would be very helpful to promulgate, now during peacetime rather than waiting until war comes, a policy within our service relating to decorations. This should cover the following principal points:

1. The requirements which must be met to qualify an individual for each particular decoration. This is set forth at present but in terse, almost legal, phraseology. What is required is in the nature of interpretative statements for each award, complete with examples. In relation to the Navy Cross, for example, we know it is awarded for "extraordinary heroism in operations against the enemy." But what is considered by the Marine Corps to constitute this type of heroism? Examples could be given to clarify the situation. These examples would help boards immeasurably.

2. No variations in standards should be permitted. Once set up, the requirements for any medal should be changed only in peacetime when they are not being awarded.

3. Decentralization. If major generals are qualified to command divisions and corps they are certainly qualified to award all but the highest decorations. Consequently, division and corps commanders should be authorized to award up to and including the Silver Star.

4. A certain number of decorations should be made on the spot. After a day's hard attack of a key point, certain individuals have qualified unmistakably for an award, particularly of the Bronze Star. Recommendations should be made verbally, within an established numerical limit, and the general or his representative should pin the medal on the marine the very next day up in the battalion command post or even in the fox-hole, or at a time when the unit is in reserve and a simple ceremony can be made of the presentation. The boost to morale which "on the spot" personal award of medals would accomplish, such as suggested here, would be immense.

5. Written recommendations for further or higher ranking awards should be made in a terse form. Adjectives should be forbidden. The only thing in the re-

commendation should be facts describing the actual physical act and its results. This would provide a fairer basis for the action of boards than the present flowery descriptions.

6. Make it easier for the front line marine to obtain a medal. The preceding two recommendations would take care of this to some extent, but in addition boards should be instructed to take it easy on cutting down medals to enlisted men who are in or operate with front line tactical units. It is not necessary to cheapen or make automatic an award to these personnel, merely to announce that the boards will follow this policy.

7. Do away with "automatic" awards of all types except three; the Purple Heart, a ribbon to indicate the theater of operations in which the recipient fought, and the Good Conduct Medal. In connection with the first mentioned of these, the Purple Heart, the regulations regarding its award need complete overhauling in order that they may state explicitly the conditions under which it may be awarded. Under the present terminology there have been men who qualified for it by scratching themselves diving for a fox hole; conversely, some men were blown silly by the force of nearby shell explosions which, however, left no mark, and they were tagged "combat fatigue" and given no medal.

We have definite need of some improvement in our system and the above suggestions are intended to furnish "a solution" as they say in school, not necessarily the only one. But our Marine Corps is founded on these traditions of courage by our men and it is only fitting that they be promptly and properly recognized by suitable decorations.

USMC





# Naval Gunfire at Roi-Namur

ALTHOUGH IT HAD BEEN PLANNED IN THE LATE SUMMER OF 1943 to attack the Marshalls upon completion of the Gilberts campaign, it was not until December of that year that a firm decision was reached as to the actual points of invasion. An attack upon the Eastern Marshalls, with Wotje and Jaluit as the focal points of the assault, had been considered and dismissed. It was finally decided to strike at Kwajalein atoll, with Roi-Namur and Kwajalein islands the primary objectives.

RearAdm Richmond K. Turner, a veteran of Guadalcanal and Tarawa, was appointed Commander of the Expeditionary Force, and was assigned overall responsibility for seizure of the entire atoll. His opposite number, as Expeditionary Troops Commander, was MajGen Holland M. Smith. The overall (Expeditionary Force) command was split

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*By Comdr I. E. McMillian*

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**At daylight on 1 February, D plus 1 day, the continuous bombardment was increased in tempo, and a pre-arranged plan of neutralization and destruction of the remaining defenses commenced. Heavy ships moved in close for fire observation**

into two attack forces. The Northern Attack Force, under RearAdm R. L. Conolly, with MajGen Harry Schmidt's newly organized 4th Marine Division, was given the task of seizing Roi-Namur and the northern half of the atoll. The southern Attack Force under Adm Turner, with Army MajGen Charles H. Corlett's seasoned 7th Infantry Division, was to simultaneously strike at Kwajalein island and seize it along with the southern half of the atoll. D-Day was set for 31 January 1944.

In this account we shall confine ourselves to the activities of the Northern Attack Force under Adm Conolly.

The initial stages of the planning for the gunfire support used in the attack upon Roi-Namur was done at Camp Pendleton, in November and December 1943. MajGen Schmidt had established his headquarters there, and RearAdm Conolly, having just organized the new Group Three, Fifth Amphibious Force, also set up his headquarters at Camp Pendleton. The Admiral and his staff were land-based until the arrival of the amphibious command ship *Appalachian*, from the Atlantic.

☛ THE GUNFIRE SUPPORT planning accomplished at Camp Pendleton consisted primarily of perfecting plans for the dress rehearsal to be conducted at San Clemente island and scheduled for early January 1944.

RearAdm Conolly arranged for most of his supporting battleships, cruisers, and destroyers to be present in the San Diego area so that their gunfire support training could proceed under his close and personal supervision.

By the time that the Roi-Namur operation became a certainty, the battle for Tarawa was history. The Attack Force Commander wanted no repetitions of the errors made there. He determined that his fire support ships would deliver the maximum effective assistance to the troops even if it meant that the battleships and other fire support ships had to put their bows perilously close to the existing Marshallese reefs in order to close ranges sufficiently to achieve the most destructive results.

At Tarawa, the ships' gunfire had been interrupted on two critical occasions when it was most desperately needed. The first costly cessation of fire was early in the morning of D-Day and it was ordered to permit a scheduled air strike to be executed. The air strike failed to materialize but the Japs manned their guns during the lull in supporting activity and opened fire on our ships. The transports had to beat a hasty retreat to seaward and finally the ships re-opened fire without waiting any longer for the air strike. The second fatal cessa-

tion of gunfire support was at H-Hour, 0900. When the clocks hands came to 0900 the ships' gunfire support stopped as previously planned. Unfortunately, however, many of the boats had grounded 1000 yards to seaward of the beaches, and at 0900 many of the marines that had been embarked in the grounded boats were wading in to shore. The lull in ships' gunfire permitted the Japs to again man their guns and this time they opened up with everything they had, upon the marines wading up to the beaches as well as upon the few who had reached shore.

No preliminary softening up bombardment was delivered prior to D-Day at Tarawa. Consequently many enemy guns were in full commission on D-Day and the defending personnel were fresh and ready for battle.

The planners for Roi-Namur, therefore, had to insure that:

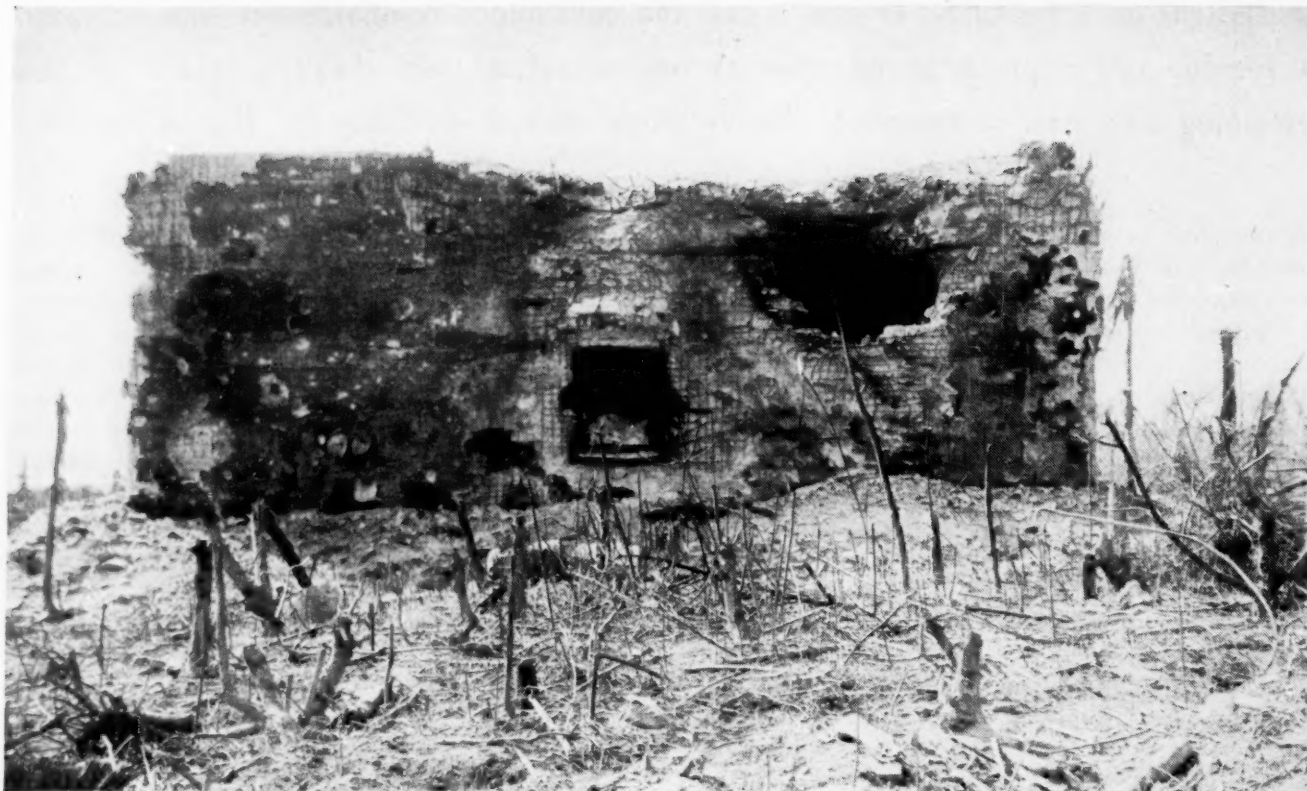
(a) ships' gunfire support would continue unceasingly and would only be checked during actual materialization of a scheduled air strike;

(b) ships' gunfire support would not necessarily be based upon a clock time, H-Hour, but upon actual observation of the position of assault waves with relation to the actual landing beaches;

(c) meticulous and complete destruction of all enemy guns and shelters would be completed before the troops set foot on the beaches.

Directly as a result of the study of Tarawa, and since intelligence sources indicated that Roi and Namur were honeycombed with defensive installations, it was determined to devote a full day and night before the main landings to a drenching bombardment, by air and naval gunfire, of the main objectives. In addition, and in order to bolster the fire of the ships, the Marines conceived the idea of landing artillery on outlying islands, so that the artillery fire, well within range of Roi-Namur, could also be employed during the period preceding the main landings.

☛ THE FINAL PLANS for the dress rehearsal were completed on board *Appalachian* in San Diego harbor after ComPhibGru 3 moved aboard, with his staff in early December. Concomplete and close liaison, via telephone and teletype, was maintained with the 4th Marine Division only 40 miles away at Camp Pendleton. The rough plan for Roi-Namur was being formed up at the same time, with all the innumerable changes motivated by new thoughts and ideas.



**Most of the structures that had offered any protection at all, were piled high inside with enemy dead. The ground was literally covered with fragments of the concentrated naval bombardment.**

Preliminary rehearsals were completed at Aliso Canyon, off Camp Pendleton, but all fire support was simulated. The dress rehearsal, in which live air and gunfire support was employed to full advantage, was conducted at San Clemente island on 2 and 3 January 1944.

The shore fire control parties used in the operation were members of the 1st Joint Assault Signal Company. All their training was conducted under the direct supervision of ComGru 3, Fifth PhibFor and CG, 4th MarDiv. They participated in all the exercises preliminary to, and at, San Clemente island. Communications drills were conducted between the Shore Fire Control Parties and the ships with which they were later to operate at Roi-Namur. Members of the SFCs visited aboard their assigned fire support ships and became acquainted with ships' officers.

The final gunfire support plans were completed and distributed the second week in January 1944. The schedules of fire in the plans were prepared so as to give considerable leeway to the Fire Support Unit commanders in executing the details. Selection of the caliber of guns to use, together with ranges and rate of fire, within broad limits, were entrusted to the FSU commanders. Destroyers, inside and outside the lagoon, were to be relied upon for the major portion of the close support. The ships were placed so that maximum effect against the enemy

would be realized with minimum interference by the firing ships with each other.

Prior to their departure from San Diego and San Pedro, the fire support ships filled to capacity with ammunition in types and quantities determined by the Attack Force Commander. Mounting of the operation on the West Coast facilitated the supplying of this required ammunition. (This consideration is of paramount importance to the planners for gunfire support. As the war progressed, the supply lines became longer and the flow of ammunition to the amphibious forces assumed gigantic proportions. For the Roi-Namur operation, the basing of the ships on the West Coast reduced the usually difficult ammunition problem to a relatively simple one.) RearAdm Oldendorf, later famous for his crossing of the "T" of the Japanese Fleet at Surigao Straits, commanded the Fire Support Group, and supervised the ammunition loading of all his ships.

The LCI gunboats assigned for the operation were outfitted at San Diego and Pearl Harbor to full capacity with the rail, gravity-feed-type 8 rocket launchers (for the 4½" beach barrage rockets). The Attack Force Commander was particularly interested in rocket support and expected the rocket mounted LCIs to provide an overwhelming burst of supporting fire at the most critical stage in the ship to shore movement—the period just



**All the blockhouses, although they boasted heavily reinforced concrete walls 44 inches thick, received direct hits from 14-inch and 16-inch shells. Only one blockhouse was unbreached.**

before the attackers were to step ashore. Their rocket (plus 20mm and 40mm) fire was designed to thicken the promised curtain of fire protection for the Marines and to furnish cover for the assault waves, commencing when they were very close to the beaches and continuing until they landed. Close support by ships during this period is doubtful and the LCIs, were to fill the gap.

Daylight of D-Day, 31 January 1944, found the ships on stations surrounding Roi-Namur and ready for their assigned tasks. The fire support ships present were the battleships *Tennessee*, *Maryland*, and *Colorado*; the heavy cruiser *Louisville*; the light cruisers *Santa Fe*, *Mobile*, and *Biloxi*; and nine destroyers. *Indianapolis*, with Adm Spruance on board, joined one of the fire support units later in the day and added the weight of her gunfire to the assault.

The plans for D-Day required the seizure of the islands of Mellu and Ennuebing to the southwest of Roi and the islands of Ennugarret, Ennumennet, and Ennubirr to the southeast of Namur. Mellu and Ennuebing commanded the best entrance to the lagoon, and in addition it was desired to land artillery of the 14th Marines on these islands in order to augment the fire of the supporting ships upon the primary objectives, Roi and Namur, to be taken on D plus 1 Day. Artillery was to be landed on Ennumennet and Ennubirr for the same purpose.

While the boats were forming at the line of departure for Mellu and Ennubing, a shore battery on Roi opened up on them. This gun was quickly silenced as a target of opportunity by the fire of support ships. Very little resistance was encountered on these two islands, and the Marines set up their artillery without delay. The mine-sweepers and one destroyer, *Phelps*, entered the lagoon and soon the landings on the other islands were completed, having been assaulted from inside the lagoon. Ennumennet and Ennubirr islands received a heavy bombardment from our ships just prior to the landings. The final objective desired for D-Day, Ennugarrett, was in our hands by 2000.

On D-Day the control and coordination of air and naval gunfire was carried out in the Joint Operations room of the flagship *Appalachian*. The Attack Force Commander's staff air and gunnery officers were the agents who acted in the name of their commander to achieve the necessary coordination. The G-3 of the 4th Division was physically located adjacent to the gunfire and air controls. This officer, in the name of the Landing Force Commander, and fully acquainted at all times with the desires of his commander, made requests for whatever air or gunfire was desired by the troops. During D-Day, of course, all hands were mainly concerned with the preliminary landings and the setting up of the artil-



lery, expected to be of considerable assistance during the main onslaught on D plus one against Roi and Namur. Little coordination with regard to troop movements was required on D-Day since the small size of the initially seized islands made it mandatory to cease all air and gunfire immediately after our Marines set foot on them.

During D-Day, the known installations on the main objectives received an intense naval bombardment from close range, with direct observation by ships' spotters. The ships commenced operations at medium ranges and gradually closed in.

During the night between D-Day and D plus one Day, several destroyers maintained an intermittent bombardment of Roi and Namur. The demoralization and harassment of the enemy continued without surcease. The continued demoralization of the Japs was of such nature that they were completely exhausted and nerve-racked by the time that the main landings were effected. On D plus 1 Day many were driven insane and some of those captured were in a pronounced state of shock and collapse. The night bombardments were directed at likely personnel concentration areas, and were purely neutralization rather than destruction fires.

☛ AT DAYLIGHT on 1 February, D plus 1 Day, the now continuous bombardment by air, ships' gunfire, and artillery increased somewhat in tempo, and a pre-arranged plan of neutralization and destruction of the remaining enemy defenses commenced. The Attack Force Commander ordered the heavy ships to go in extremely close so that they could directly and positively determine the results of their salvos.

The Japanese made an attempt, about 0930, to make what appeared to be a determined counterattack on Ennugarret. Naval gunfire support, augmented by air and artillery, promptly broke up this venture. It was later determined that the Japanese observed wading from Namur to Ennugarret were not making a counterattack at all, but were simply trying to escape from the heavy bombardment of their island stronghold. The Japs were driven back to their red hot shelters on Namur or else killed while in the open. In any event they all must have known that they had little time left to live and acted accordingly.

H-Hour, delayed because of the difficulty in marshalling sufficient amphtracs, was finally set for 1200, and the main landings were actually made simultaneously on Roi and Namur at 1157. There was little or no opposition at the beaches and the island of Roi was secured by dark.

The LCI gunboats, used for the first time in such capacity, led in the troop waves and blasted the beach areas with rocket and machine gun fire.

The situation became so favorable that by 1300 of D plus 1, the big transports, as well as the flagship, *Appalachian*, entered the lagoon and anchored. There were no

mines and underwater obstacles to be found. The uncharted coral heads caused grief in one ship, the hard-luck *Anderson*, when she hit one while feeling her way into the unfamiliar waters. (The ship had to be towed back to Pearl since her propellers were affected.) A few other ships had similar trouble.

The control and coordination of supporting arms continued in the Joint Operations room of the flagship after the troops were ashore, with the supporting naval gunfire being delivered with relation to certain pre-determined positions of the O-1 lines. As the troops moved forward, the gunfire was gradually adjusted toward the enemy. The main islands were so small that it soon became necessary to cease all gunfire as soon as it became apparent that the projectiles were falling too close to the troops and thus restricting their rapid movements forward. Few call fire missions were fired. The limited areas occupied by the Japanese were in close proximity to our own troops. This was a case, therefore, where a properly delivered preliminary bombardment counteracted the dangerous possibility that our own and enemy troops would so closely enmeshed that supporting fires would be out of the question. The casualties produced by the preliminary air and naval gunfire bombardments were such that the defenders had little fight left in them when actually faced with the marines. A little under 2300 tons of naval projectiles were delivered to the Japanese to achieve these results.

☛ ON 2 FEBRUARY (D plus 2) the battleships and cruisers entered the lagoon and anchored. Their job was finished. The mission of the troops was completed about 1400 the same day when all organized resistance on Namur island was overcome. The capture of Roi-Namur was concluded.

In order to secure the remainder of the islands that fringed the northern portion of Kwajalein atoll, a small expedition was organized consisting of marine and naval units. One regimental naval gunfire liaison officer, embarked in an LVT(2), accompanied this force and was assigned one destroyer to give fire support. No Japanese were found in any of the outlying islands, however, and no call fires were required. The last of these islands was secured on 7 February 1944.

In the meantime, Adm Turner's forces, considerably to the south of Kwajalein island, had landed the Army 7th Division which was progressed at a rate somewhat behind that of the Marines at Roi-Namur.

Photographers were sent ashore on the morning of D plus 2 to record the effect of naval gunfire on both islands of Roi and Namur before the cleanup commenced. The vegetation and trees were completely denuded or missing altogether. All of the blockhouses, gun emplacements, and pillboxes received direct hits, many with 14-inch and 16-inch shells. Penetration was effected even in the Ger-



Naval gunfire, aerial bombardment, tanks, and other artillery put every gun on the islands out of action or completely demolished them. Penetration was effected even in German-type blockhouses.

man type blockhouses, although they boasted heavily reinforced concrete walls 44-inches thick. Only one blockhouse in the entire target array was unbreached. The ground was literally covered with fragments of naval projectiles. Most of the structures that had offered any protection at all, were piled high inside with enemy dead. Every gun on the island was put out of commission by direct hits, some of which, of course, may have been caused by air bombing, tanks, or artillery. Most of the structures had been unmistakably penetrated by naval gunfire. (A horizontally placed hole caused by the penetration of a major caliber projectile cannot be confused with one caused by a bomb dropped from an aircraft.)

There was only one occasion where the Japanese aviation interfered with the operation at Roi-Namur and this did not affect the quality of the naval gunfire support since it happened after both Roi and Namur were captured. Shortly after midnight on 12 February, a dozen Japanese seaplanes, approaching from the northwest, launched a bombing attack from about 20,000 feet altitude. Considerable casualties ashore and loss of material resulted but the ships present were undamaged. The only other evidence of enemy reaction was the sighting of an enemy submarine about 20 miles from Roi-Namur.

We have seen that the assault upon Roi-Namur was undertaken with a full appreciation of the deficiencies

that were uncovered at Tarawa. The most important features that subscribed to the success at Roi-Namur and which contributed to the development of gunfire support-technique were:

- (a) a definite softening-up period;
- (b) the use of extremely close ranges for 14-inch and 16-inch guns against reinforced concrete structures definitely identifiable as primary targets;
- (c) employment of harassment of the enemy by naval gunfire, day and night before the landing, without let-up, in order to induce a state of collapse in a defending enemy;
- (d) landing of artillery to augment the gunfire support for the main effort; and
- (e) complete briefing of participating personnel.

The triumph at Roi-Namur was due, in large part, to the careful analysis of the battle for Tarawa and the adoption therefrom of procedures guaranteed to destroy a major portion of the enemy's defensive strength. The idea that the prime justification for gunfire support is the need of the troops being landed was nowhere better demonstrated than at Roi-Namur. It is unfortunate that the lessons learned at Tarawa and the remedial steps taken at Roi-Namur were disregarded somewhat at Palau and later at Iwo Jima.

USMC

## Col James H. N. Hudnall Gives . . .

# A REPLY TO MR REAVIS

2DLT WILLIAM A. REAVIS GETS IT OFF HIS CHEST AT an early age.\*

I doubt if a single officer of the old Corps has not at one time or another entertained the thought of a Marine Corps Academy. Fortunately maturity tends to dissipate fallacious thinking. Accordingly, with experience came the realization that in our diversity of procurement lies our strength.

It is not my purpose to discuss the pros and cons of a Marine Corps Academy. Suffice to say, that, luckily no such ideas have come to fruition. Mr Reavis, however, makes interesting observations—replete with connotations—which may be misunderstood.

He is slightly off the track when he compares the Basic School with the Naval Academy. One hardly compares an undergraduate training agency to a graduate school. Apparently he doesn't think too highly of the methods of either. That of course is his privilege, and the thought is common to more than one individual who has been processed by the two institutions.

In recent months the Naval Academy has been the target of considerable sniping. It has had its fair share of defenders. Its attackers and defenders, mostly educators, are better qualified than I to discuss its merits as an institution of liberal learning. However I rise to its defense when Mr Reavis, by implication and otherwise, indicates that Annapolis is no fit place for the training of a Marine officer; that to the neophyte marine much of its academic time is a vacuum; that the graduate is not possessed of requisite officer-like qualities; that the graduate finds himself a "bona fide second lieutenant in the Marine Corps who wears the uniform and insignia of rank, and who knows absolutely nothing about either the Marine Corps or the technique of being an officer"; that the course in the arts is too limited in scope to fulfill the cultural requirements of the Marine Corps; and that the graduate is unfitted by education to take his place in that, ". . . small outfit schooled and indoctrinated with the theory of amphibious warfare . . ."

Let's take a look at the worth of Academy experience to a Marine officer. The most striking value to the graduate is personal in its practical application. He understands and speaks well the Navy language. He realizes

that there is no mystery to operating ships and planes; and he possesses an awareness of his proper niche in the naval organization. Consequently he is clothed with peace of mind; and is shielded from the mass of myth likely to befall the lot of his less fortunate contemporaries at the hands of brother officers of that branch of our Naval Establishment—the Navy.

True enough, "The Naval Academy curriculum is, specifically, a program for the training of young men to be naval officers." This covers a lot of ground, as does the scope of naval activities. The naval officer may be a navigator, an engineer, a supply officer, a ship constructor, a SeaBee or a marine. The Academy turns out all kinds—not trained as finished officers, as Mr Reavis would have us believe, but all possessing the prerequisite of officer-like qualities, a practical cultural background, and an extensive knowledge of engineering practices. It is on this foundation that the Marine Corps officer, as well as the Navy officer, begins to build his professional knowledge. Not until he has the foundation is he ready to take up the work of the graduate school.

As for liberal education, it is agreed that the Academy provides only an adequate minimum. Graduates do, however, acquire a fund of practical information and the ability to use it. As a rule they observe the social amenities. They possess a practical knowledge of the art of plain composition—a trace of which is not always present in the undergraduate of the better colleges. No other school in the world affords its students the same opportunities as those provided by the annual cruises, to see and to learn the world, and its people—knowledge so necessary to leadership and to intercourse with the public. Its elective foreign language course may be dismissed with the reminder that not so many years ago Marine officers were required to having a speaking acquaintance with at least one foreign language.

Now look at the technical side of the Academy and you see an engineering school. No one can deny that the major part a Marine officer's career is allied with engineering, as witness our participation in the fields of aviation, electronics, telephony, artillery, etc. Neither can it be denied that all engineering is basically common to the same foundation—higher mathematics.

The Annapolis technical courses are applications of mathematics; and each contains aspects beneficial to the potential Marine officer. In Mr Reavis' language, it

\*See *Why Not a Marine Corps Academy?* by 2dLt William A. Reavis in the April 1948 GAZETTE.



all tends to make a musician rather than a piano player. Today every officer must be able to double in brass as well as to be a "good piano player." The Academy graduate may be as poorly informed about the Marine Corps as he is about the rest of the Navy, but he knows a lot about the Naval Establishment, and enough of the "technique of being an officer" to understand the principles of orchestration so necessary in the Nation's military symphony.

Mr Reavis is more than a bit befuddled when he implies that the Annapolis emphasis is misplaced "because only part of a marine's career has anything to do with the sea." This information comes as a surprise to hundreds of us who have linked the better parts of our lives with the sea. He seems not to have learned "why" of the Fleet Marine Force. Does not the word "Fleet" mean anything to Mr Reavis? Is he aware that "sea duty" on one's record was practically a pre-war prerequisite for promotion? Does he have any idea of the number of marines performing duty in ships and in Navy organizations ashore; and of what their duties consist? Is he aware that a large part of naval aviation—certainly a sea-going organization—is composed of marines? Does he have any conception of the average amount of duty a Marine officer spends on sea duty? (A little over ten of my twenty-three years of Marine Corps service have been devoted to duty in ships and with naval staffs.) Incidentally, he refutes his own statement when he writes of a, "... a small fighting outfit schooled and indoctrinated with the theory of amphibious warfare ..." for certainly amphibious warfare is, in all respects, purely naval, be the fighting elements those of the land, sea or air. I would query Mr Reavis to ask, "What portion of a Marine officer's career is apart from the sea?" Surely his answer will confirm that the manner in which a marine lives, fights and perhaps dies, is inseparably and

irrevocably linked with the sea. If not, the word "marine" has lost its significance.

How many of his contemporaries share Mr Reavis' views? His impressions of our profession, its place in the naval organization and affairs of the Nation are strange. One can but wonder if his concepts are attributable to insufficiencies in the Basic School. It is not my intention to criticize the latter—I know far too little of its courses and methods for the purpose—however certain conclusions are obvious.

Mr Reavis doesn't feel too kindly toward Basic School methods. In this he is not alone. Intercourse during the years—official and social—with Basic School products has convinced me that something is wrong. Possibly re-orientation of the course and methods are indicated. I have always deplored the cadet-like treatment of its students. Such treatment deprives them of the opportunities afforded only to those who live up to commissioned standards. In these days of high prices and low pay, few can afford such standards but even so it seems completely superfluous to use cadet methods with commissioned officers. The schoolboy approach certainly does nothing to dissipate the infantile pose of its students; and the value of an excess of NCO types of training is open to question. Graduate students are presumed to know the skills of the trade. Most do, hence it seems that the time at the school could be used more profitably by exposing them to facts of the career other than those of the infantry platoon.

I am glad that Mr Reavis has spoken his piece. Although I could never agree with him as to the need of a Marine Corps Academy, I am pleased that his efforts have given voice to thoughts common to a lot of the older generation. He suggests that it is quite possible that our troubles lie in misuse of what we have, rather than in the need of something we haven't got.

USMC

## Academy Graduates on Active Duty

A RECENT CHECK at Headquarters, Marine Corps, revealed that approximately 10.5 per cent of Marine officers now on active duty are graduates of the Naval Academy. Breakdown by rank is as follows:

Rank	Number of Academy Graduates	Percentage of Academy Graduates
General	0	0
Lieutenant General	0	0
Major General	2	16.6
Brigadier General	2	7.4
Colonel	90	38.6
Lieutenant Colonel	160	29.6
Major	85	9.6
Captain	19	1.4
First Lieutenant	41	1.9
Second Lieutenant	92	15.2

# Message Center

## The Military Man in Government . . .

DEAR SIR:

The old, old question of the military man in civilian governmental capacity is bouncing around again, as it has since the days of the ancient fighting priests. Hanson Baldwin as well as a horde of newspaper columnists who get caught near the deadline without an original idea have been kicking it around ever since the end of the war. Gen Edson touched on it lightly when he was testifying in the unification debates, and Representative Twyman of Illinois devoted 30 minutes to a discussion of some aspects of it on the floor of the House late in April. And now my good friend Phillips D. Carleton brings the discussion to the pages of the *GAZETTE*.

Maj Carleton's thesis is that the military man is an able administrator, simply by virtue of having been a military man. Is it quite clear that he speaks of the career officer who is retired, or near the retirement point. (It is strange that he makes no gesture whatever toward those magnificent administrative workhorses, the old sergeant majors.) He supports his thesis, as does every sound academic man, by footnotes, and among those footnotes he has inserted a sleeper. That is, he has relapsed into one of the transparent and amiable dodges of the academic man—he has referred, as to an authority, to a book which he had a hand in compiling. But this is of small moment; what is important is that Carleton has overlooked a detail of prime importance.

I refer here to the character of the military man. By this, of course, I mean the total of his years of training and indoctrination and gradually increasing authority. A full discussion of that character would properly be the subject of an essay, and beyond the interest of the readers of the *GAZETTE*. I suggest, however, that the following points be considered:

(1) The career military man is generally a product of one of the great service academies. (The Marine Corps officer probably is not, and herein perhaps lies one of the imponderables that makes the Corps unlike its sister services.) He has been cut off from civilian life since he was about 18 years of age, and during his impressionable years he has been subjected to as rigidly regimented a life as it is possible to find outside a very few of the great religious orders. He has been taught one thing to superlative perfection—loyalty both to his country and to his service. There is a great danger here, the danger that those two loyalties may coalesce and become one in his mind.

(2) The military man, in his military posts, has been able

to use a tool which his civilian opposite number never possesses. I refer here, of course, to the tool of absolute authority over all those who may be beneath him in rank. This authority is backed up by a power of discipline that simply does not exist in civilian life. Furthermore—the matters which he administers are so completely outlined and delimited by regulations that literally the only area in which the military man has to exercise any initiative in the field of human relations. Here again custom and regulation operate to mark out his path for him, and his solution to the problems arising in the area may be boiled down to the adage that one asks one's superiors and tells one's subordinates.

(3) All military services operate, to a greater or a lesser degree, on the wholly fallacious principle that rank imparts ability. As the career man goes up the ladder, he increases in experience and the ability to accept further responsibility (of precisely the same kind that he has carried throughout his career); he has also been pressed more firmly into the mould of his profession—a profession which, whether we like to admit it or not, has for one of its basic tenets that of conformity. When the man reaches that point of his career that brings him to public notice, he has operated widely in a narrow field, and he has had no occasion to doubt that in any other field of administration he could operate at least as well. Gen Edson touched lightly and diplomatically on this aspect of the question when he said that one of the faults of the military man was his profound conviction that he could do any given job better than anyone else.

All these points, and many lesser ones, must be kept in mind when we are facing the problem of appointing a military man to a post of great importance on the basis of the record he has made in his chosen profession. We must be careful not to let ourselves become bemused by the fact that Gen Blank has commanded divisions and corps and armies; we must avoid looking at him as a Doer, as a Man Who Gets Things Done, the image of the Perfect Man by Chamber of Commerce Standards. We must look at him, instead, as a highly specialized man, whose performance within his own profession is, by and large, above any reproach. We cannot afford to assume that his performance in other fields will be as outstanding.

JOHN L. ZIMMERMAN,  
Captain, USMCR

ED: Maj Carleton was furnished a copy of the above letter. His reply follows:

DEAR SIR:

My friend John Zimmerman, after he had read a portion of my article in the last GAZETTE, was seized by a holy zeal. He pulled his crusader's axe from the wall, whistled up his horse, and dashed off to battle. I can only admire the force and momentum of his attack. Unfortunately, however, he has galloped off in the wrong direction. (I wish here to express my appreciation of that stern sense of justice which Mr Zimmerman exhibited in sending me a carbon copy of his letter.)

Mr Zimmerman first assaults my morals. I have, he says, referred "as to an authority," to a book which I had a hand in compiling. His statement is not correct. I placed *Industrial Mobilization for War* on a suggested reading list. I did not have a hand in compiling the volume. Eleven authors wrote the chapters of the book; Dr James W. Fesler, War Production Board Historian, integrated those chapters into book form; an Advisory Council of industrialists and Government officials reviewed the manuscript for accuracy. The Foreword to the volume states my function: "Phillips D. Carleton was responsible for editing and preparing the manuscript for the printer, and for making all arrangements incident to actual publication." (I presented Mr Zimmerman with a copy of *Industrial Mobilization for War*. By reading three and a half pages of the Foreword, he could have discovered for himself the information I now supply. Mr Zimmerman's accusation of intellectual dishonesty is apparently based on two assumptions: 1) that I shall derive some benefit from the sale of the book, and 2) that I am using previously published opinions of my own to bolster presently expressed ones. Both assumptions are false. The charge is as irresponsible as it is irrelevant.

Mr Zimmerman next attacks what he alleges are my arguments: He claims that my thesis is "that the military man is an able administrator, simply by virtue of having been a military man." I state no such thesis. I point out the many similarities between the system of military administration and that of Government or private industry. Mr Zimmerman says that "it is quite clear that he (Carleton) speaks of the career officer who is retired, or near the retirement point." That is Mr. Zimmerman's assumption and his alone.

The rest of Mr Zimmerman's letter is a vigorous expression of his opinions on the military man and his deficiencies. Mr Zimmerman is certainly entitled to these opinions, but since they are irrelevant to my article, I see no reason to discuss them here. I have already referred readers to an article by Hanson Baldwin, who expresses, rather more cogently than Mr Zimmerman, the conventional case against the military man. I might add that as a Vermonter and a marine I share Mr Zimmerman's admiration for Gen Merritt Edson, whom he twice refers to with obvious approval. Gen Edson is serving excellently well in Vermont as a civilian administrator, and in that capacity has earned the respect and liking of the Vermonters.

PHILLIPS D. CARLETON,  
Major, USMCR

## Wanted: A New ID Card . . .

DEAR SIR:

The Identification Card now in use by the Marine Corps presents many problems to its holder. It usually follows that when the card is presented for identification the bearer has to explain misleading items that are typed across its face. Of these the weight and void date are the main offenders.

It is a well known fact that a man will vary greatly in weight over a period of years, therefore, this item does not always present even a near estimate of the man's present weight.

The void date usually presents the main source of trouble to the holder. Many cards bear the word "Duration" after this item, which, to the average civilian is very misleading. A great part of the public is under the impression that the duration ended with the cessation of hostilities.

In view of the fact that the card is to be picked up and destroyed at the expiration of a man's enlistment this item is unnecessary. For those who extend their enlistment the omission of the void date would enable them to keep the same card until the extension expires.

In most cases the card is used for verification of the date of birth but on the present card this important information is sandwiched in between the other data thus necessitating the holder to point it out to the one concerned. It is believed that the birth date should appear as one of the main items and in plain view for all concerned to readily see.

U. S. MARINE CORPS		NAME	
PHOTO	Validating Officer	SIGNATURE	
		Color Hair: _____ Eyes: _____	
		Enlisted: _____ Day Month Yr.	
BIRTH		Prev. Ser. (Active)	Das. Mos. Yrs.

Inasmuch as many men have the occasion to give proof of the date of their current enlistment and previous service it is important that this information be shown. The signature of the validating officer can be placed across the card to provide the space necessary for this information.

The last, but far from least, gripe on the present card is the dog-eared, shop-worn condition it gets itself in after many trips from the wallet. It is believed that the card should be laminated in the same manner as the wallet-size Certificate of Satisfactory Service, thus preserving it for as long as it is used.

FREDERICK D. CLEMENTS,  
MSgt, USMC



## Eager to Learn . . .

DEAR SIR:

May I hereby add my opinion to these so abundantly expressed about the so-called administrative illiteracy of the average line officer? I agree wholeheartedly that there is a pressing problem involved here, so let's first examine two of the suggested solutions.

An officers' manual will not solve the problem—look what happened to Hoopers' *First Sergeants' Handbook*! This suggested manual would simply add to administration, for, due to frequent changes in doctrine, addenda would have to be published or new editions issued; and that is the problem Capt Hooper encountered.

LtCol Illiterate suggested a drastic reduction in the amount of paperwork as a first step in any solution. But it will not throw any light on all the administration now behind us. And we must know what precedes before proceeding.

Let's approach the problem by tracing the steps a young, conscientious officer who earnestly desired to learn at least the basic steps of present-day Marine Corps administration. He first applied to the Marine Corps Schools, Extension Division, for a course in administration, only to learn that no course in that subject is taught separately. He would get such a course only by studying the entire AWS, Junior Extension Course (did I say he had graduated from Basic School, but had learned nothing about administration, even though he had paid strict attention and earnestly tried?).

Considering this attempt a failure, he next turned to the Government Printing Office, applying for a copy of Letters of Instruction and of the Marine Corps Manual. The latter is in a position of being revised, so an old one will soon be useless; and no binders of LofI are at present available to individuals. Twice thwarted, he turned at last to his adjutant for whatever assistance the latter would give in the line of battalion administration. But his adjutant was not sympathetic—he is one of the "Brahmins,"—and our hero was promptly repulsed on this front.

Now his ideas are exhausted, and has expressed the opinion that the only way he can learn administration is to be assigned as adjutant!

The below is submitted as my solution for the dilemma in which the above officer and too many like him now find themselves:

- Step 1. ALL echelons cut the volume of paperwork by at least 60 per cent.
- Step 2. Somebody, somewhere, somehow get the Government Printing Office on the ball and make Letters of Instruction available to individuals; then—
- Step 3. Headquarters put all officers on the mailing list for each new LofI published (pre-war style).
- Step 4. MCS be prevailed upon to make available a special subcourse, open to all hands, in Administration.
- Step 5. All officers purchase, read, and *understand* a per-

sonal copy of MCM (when published) and LofI (when the "somebody" does the "something" above referred to. Yes, we will have to do this on our own time, and keeping them up-to-date may take part of the lunch hour each week, but after all, and in spite of an almost overwhelming opinion to the contrary, we are paid for twenty-four hours in the day, not for our working hours only.

When the five steps in my solution have been accomplished, then the interested officer may even be able to keep a little ahead of administration. And an individual in the position of our hero will have a choice of means to accomplish his end—learning the secrets at present so jealously guarded by the "Brahmins."

2DLT EARNEST

## Barracks Caps?

DEAR SIR:

Have just read *The Thin Line of Tradition* in the April issue. Concerning headgear, since when have we been wearing "barracks caps?" Even the author must be slipping to use that terminology for the *frame* cap. I have checked old form NMC 603-QM, and present form NAVMC-604QM, and nowhere do they show "barracks caps." Let's remember that we in the Marines wear frame caps, and maintain a distinction from the Army's barracks caps.

As to reinstating the clothing allowance, second the motion. I, myself, survey instead of mending clothes. Give me an allowance, and I'll conserve clothes.

LEWIS SLEPIN,  
TSgt, USMC

## More on Uniforms . . .

DEAR SIR:

The Marine Corps could save a little money if it altered the present size system of clothing. It is well known that after a Marine leaves boot camp he usually puts on a little weight. The present khaki trousers now being issued do not allow for this. If the trousers were cut, like the greens, with some material left over in the seat for growth, this would save clothes from being surveyed or exchanged. Do you want to wear clothes that were worn by someone before you? Of course not. Also the sizes of the larger (green) trousers (specials) should be modified to allow for a man who has a large thigh. When the thigh is too tight, it causes the pockets to spread so that from the front, the man looks as if he has wings. A handkerchief folded carefully and in the pocket (right or left) makes the trousers tight just above where the handkerchief is and this looks very bad. I'll grant you that tight clothes look sharp but sometimes it is carried too far.

Shirt sizes should be changed to correspond to civilian sizes. A Marine should be able to draw a shirt from the QM by *neck* and *sleeve* size and not by the present outmoded sys-

tem. A person with a normal neck but long arms is forced to wear a shirt that has the sleeve several inches shorter than it should be. The opposite occurs also. You can always have the sleeve shortened but this again is more expense to the government.

The dungaree trousers should have a little material left over in the length so that a tall man needn't have what are laughingly known as "high water trousers." All this would make the Marine uniform fit the individual better than is possible at present.

NORTH CHINA MARINE

### The New SRB . . .

DEAR SIR:

I am breathing a little easier after reading the recent letters regarding LtCol Heint's January article, *The Rising Tide of Administration*, because I find I am not the only one finding this subject slipping away from me at a time in my career when the opposite is far more desirable. Having almost accepted this weakness in professional ability as one existing throughout the Marine Corps, with the exception of the specialists and the few extraordinary souls who are in the know, I am alarmed to find myself writing a criticism of *The New Service Record Book* as presented by Capt's Reardon and Pierce; a field I had dealt myself out of. This criticism is not one of context; I am certain the board is far more aware of the problems pertinent thereto, but is rather a minor point.

The book is in loose-leaf form. This, as was stated, is highly desirable oftentimes, but what is to keep any one with any desire to do so from doctoring any page of the record and inserting a new page, particularly in light of the use of typewritten entries, as suggested?

Inasmuch as difficulty in procuring economical snap fasteners exists, the alternate appears to be a continuation of a bound leaflet type Service Record Book.

J. W. STEVENS,  
Major, USMC

### Using Short-Timers . . .

DEAR SIR:

It appears that the Marine Corps will be harassed by short timers for several years to come if a new draft is put in effect. Having dealt almost entirely the past two years with two-year enlistees lured by a free college education, I naturally began to wonder what disposition of draftees would be of greatest benefit to the nation and the Marine Corps.

I firmly believe that a tortuous three months of old time boot camp followed by nine months training and service in the FMF divisions would provide the greater benefits for both the nation and Corps. By following this procedure the involuntary Marines would be certain of getting a solid fundamental



Heraclitus,  
ancient Greek  
philosopher, said,  
*'The most permanent  
thing in the world is  
change.'*



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background of infantry training so essential in time of war, and, at the same time, our understrength divisions would have manpower with which to operate.

A number of the two-year enlistees spent their entire tour after boot camp in guard detachments. To my mind they will be of little use to the nation should a war be declared in the near future and would require extensive retraining for field combat service. Their training to date has been of the policeman variety.

Why not make field soldiers out of the short-timers while we have the opportunity? We may need them at a future date. The four-year men can do the guard duty in between FMF tours.

J. A. POUNDS, III,  
Major, USMC

*Each month the GAZETTE will pay five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Signatures will be withheld if requested.*

# ✓ Check List

This list is revised monthly to include the latest in military and popular books. Are there some new titles that should be added to your library? Remember, there is a ten per cent discount for Association members.

## About Marines

A RIBBON AND A STAR	Monks & Falter	\$2.75
BATTLE FOR TARAWA	Monograph Hq USMC	1.50
BOOT	Cpl Gilbert Bailey	2.50
CORAL COMES HIGH	Capt George P. Hunt	2.00
DEFENSE OF WAKE ISLAND	Monograph Hq USMC	1.25
DEVIL BIRDS	Capt John A. DeChant	4.00
GUADALCANAL DIARY	(Penguin)	.25
HISTORY OF THE U. S. MARINE CORPS	Col Clyde H. Metcalfe	5.50
I'VE GOT MINE	Capt Richard G. Hubler	2.50
IWO JIMA	Capt Raymond Henri	.75
MARINES AT WAR	Crane	3.00
ON TO WESTWARD	Robert Sherrod	3.00
PELELIU LANDING	Tom Lea	2.75
SEMPER FIDELIS, an anthology,	Marine Combat Correspondents	3.50
THE ASSAULT	Allen R. Matthews	2.50
THE FOURTH MARINE DIVISION	Unit History	5.00
THE ISLAND (Guadalcanal)	Capt Herbert Merrillat	3.00
THE ISLAND WAR	Maj Frank O. Hough	5.00
THE LONG, THE SHORT, AND THE TALL	Sgt Alvin M. Josephy	3.00
THE MARINE CORPS READER	Col Clyde H. Metcalfe	3.00
THE MARINES' WAR	Fletcher Pratt	5.00
THE NINTH MARINES	Unit History	5.00
SIXTH MARINE DIVISION	Unit History	5.00
THE STORY OF WAKE ISLAND	Col James P. S. Devereux	2.75
UNCOMMON VALOR	Six Combat Correspondents	3.00
U. S. MARINES ON IWO JIMA		3.50
WHAT YOU SHOULD KNOW ABOUT THE MARINES	Capt John Craige	2.50
YOUR MARINE CORPS IN WORLD WAR II		4.00

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ADMIRAL HALSEY'S STORY		\$4.00
AIRBORNE WARFARE	MajGen James M. Gavin	3.00
BATTLE FOR LEYTE GULF	Woodward	4.00
BATTLE REPORT Vol I (Pearl Harbor to Coral Sea)	Karig and Kelly	3.50
BATTLE REPORT Vol II (Atlantic War)		3.50
BATTLE REPORT Vol III (Pacific War—Middle Phase)		5.00
BATTLE REPORT Vol IV (The End of an Empire)		5.00
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FOUR STARS TO HELL	Capt Laurence Critchell	3.75
GERMAN RESEARCH IN WORLD WAR II	Col Leslie E. Simon	4.00
GOEBBELS DIARIES	Louis P. Lochner	5.00
HISTORY OF THE MODERN AMERICAN NAVY	Donald W. Mitchell	4.50
HISTORY OF U. S. NAVAL OPERATIONS IN WORLD WAR II: BATTLE OF THE ATLANTIC 1939-1943	Samuel Eliot Morison	6.00
HISTORY OF WORLD WAR II	Francis T. Miller	5.00
I SAW POLAND BETRAYED	Bliss Lane	3.50
LUCKY FORWARD	Col Robert S. Allen	5.00
OUR SHARE OF NIGHT	Drew Middleton	3.75
PATTON AND HIS THIRD ARMY	Col Brenton G. Wallace	3.00

RETREAT WITH STILWELL	Belden	3.00
RUSSIAN JOURNAL	John Steinbeck	3.75
SECRET MISSIONS	Capt Ellis M. Zacharias	3.75
SILENT IS THE VISTULA	Irene Orska	3.00
SLIGHTLY OUT OF FOCUS	Robert Capa	3.50
STORIES OF CHINA AT WAR	Chi-Chen Wang	2.50
STRANGE ALLIANCE	MajGen John R. Deane	3.75
STRATEGY IN WORLD WAR II	LtCol Alfred H. Burne	1.75
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THE ARMED FORCES AS A CAREER	North Callahan	3.00
THE HARD WAY HOME	Col W. C. Braly	3.50
THE HIDDEN WEAPON	David L. Gordon & Royden Dangerfield	3.50
THE LOST WAR	Matsuo Kato	2.75
THE NAVY'S AIR WAR	Lt A. R. Buchanan, USNR	3.50
TOP SECRET	Ralph Ingersoll	3.00
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	Gen H. H. Arnold	
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WHAT THE CITIZEN SHOULD KNOW ABOUT MODERN WAR	Fletcher Pratt	2.50
WORLD WAR II	Roger W. Shugg & Maj H. A. DeWeerd	3.00
WRATH IN BURMA	Fred Eldridge	3.00

## Service Humor

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SAD SACK	George Baker	2.00
SO THIS IS PEACE	Bob Hope	2.50
THE WOLF	Leonard Sansone	1.00
UP FRONT	Bill Mauldin	3.00

## Humor

PLAYBOY'S HANDBOOK	William A. Brooks	\$1.98
TO HELL WITH HUNTING	Ed Zern	2.00

## Texts and References

AXIS GRAND STRATEGY	Compiled from Original Material Prepared by Staff Officers of the German Army, Navy & Air Force	\$5.00
CADENCE SYSTEM OF TEACHING CLOSE ORDER DRILL	Col Bernard Lantz	.75
CELESTIAL NAVIGATION	Blackburn	1.00
COMBAT INTELLIGENCE	Schwein	2.00
COMMUNISM AND THE CONSCIENCE OF THE WEST	Fulton J. Sheen	2.50
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ELEMENTS OF AMMUNITION	Maj Theodore C. Ohart	6.00
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FUTURE OF AMERICAN INTELLIGENCE	Petee	2.00
GAS TURBINE AND JET PROPULSION FOR AIRCRAFT	G. Geoffrey Smith	5.00



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GUN DIGEST		1.25
HATCHER'S NOTEBOOK		
	MajGen Julian S. Hatcher	5.00
HOW TO READ FOR SELF IMPROVEMENT		2.75
JOMINI'S ART OF WAR	LtCol J. D. Hittle	2.50
KILL OR GET KILLED	Col Rex Applegate	2.50
LIFE OF A POW UNDER JAPANESE	Fortier	3.50
MAHAN ON SEA POWER	William E. Livesey	3.50
MODERN JUDO, 2 Volumes	Charles Yerkow	5.00
NEW DRILL REGULATIONS, 1948 Edition		1.50
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PSYCHOLOGICAL WARFARE		
	Paul M. A. Linebarger	3.50
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	Norman Copeland	2.00
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# Storming the Barrier Forts

continued from the back cover

threw 200 shells shoreward and succeeded in silencing the first and second forts. The *Portsmouth* was hit 19 times without a man on board being injured.

Four days of dickering with Yeh, the Governor of Canton, followed. Results were unsatisfactory. Armstrong became ill and turned the matter over to the more impetuous Foote. Permission was granted to storm Canton's river defenses which consisted of a series of European-engineered shore batteries.

☛ BRIGHT AND EARLY ON 20 November 1856, the *Portsmouth* and *Levant* began to work over the barrier forts. The Chinese return fire was characteristically vigorous and inaccurate. Off to one side, 287 seamen and marines plus four boat howitzers landed from ten boats and prepared to assault the Chinese positions.

The marines were under Capt John D. Simms, who had been withdrawn from Canton proper. Simms had 15 years service behind him, had been breveted for gallantry at Chapultepec. Assisting him were the *Portsmouth's* and *Levant's* Marine officers, 2dLts William A. Kirkland and Henry B. Tyler, Jr., respectively. These two sprouts were in their second year of service. The seamen were divided into divisions under their gun officers and the force as a whole was led personally by Comdr Foote.

The landing party, marines in the advance, moved to the rear of the first fort, passed through a village, brushed aside some skirmishers, and took the fort with musket fire. Chinese losses were about forty killed.

Raising the American flag the marines blazed away at the next fort with some of the captured fort's 53 guns. Tiring of this, Simms sallied forth from the fort and pushed out the Chinese soldiers who had reoccupied the village. The enemy retreated into the surrounding rice paddies. Unable to follow, Simms retired. This encouraged a force of from two to five thousand Chinese to attempt a counterattack. Simms met them with his marines' muskets and a sailor-manned howitzer. The Celestials were routed and Simms held the fort for the remainder of the night with just a portion of the

landing force, the rest returning to their ships.

At three o'clock the next morning the preparatory bombardment against the remaining three forts was begun. Simms' marines and the rest of the landing force reembarked and prepared for the assault of second fort, nicknamed "Fiddler's Fort." His small boats were towed into position by a small steamer, one of his launches being raked in the process by a 64-pound shot which killed two and wounded six.

They made the shore without much difficulty, advanced against artillery and rocket fire, waded through waistdeep ditches, and took Fiddler's Fort with only one additional casualty. Corp MacDougal planted the Marine flag on the ramparts; Simms turned some of the guns on the third fort and spiked the rest.

The third fort in line was on an island. The *Portsmouth* and *Levant* gave it a liberal going-over, Simms' marines and seamen made a shore-to-shore landing and took it and its 38 guns.

The day ended with an artillery duel between the remaining Chinese fort and the ships, the landing force howitzers, and the guns from the captured forts.

☛ THE NEXT MORNING the landing party moved against the fourth and final fort. The boats were unable to beach and the assaulting marines and seamen had to wade in. The fort was stormed and taken, 28 guns counted, and a counterattack repulsed. That was the final action for the expedition. Of the 5000 Chinese defenders at least 250 and perhaps 500 were dead. American losses were seven killed and 20 wounded.

The four forts were systematically reduced by Comdr Foote. The 168 captured guns—ranging in caliber up to 8½ inches—were spiked or rolled into the river. The seven foot granite walls were mined and breached. A demolition accident—a spark set off a 50 pound charge of powder—killed and wounded several, virtually doing more damage to the attackers than the Chinese had succeeded in inflicting.

The mission was a complete success: Governor Yeh apologized for firing on the American flag.

EHS



# Storming the Barrier Forts



FOR VARYING DEGREES OF AGGRAVATION, Marines were put ashore nearly 100 times during the 1800s. A great many of these landings were unopposed, but those hostilely received were handled with a practised ease. The pattern was usually this:

While the parent ship or fleet belabored the objective with shell and round shot, the landing force rowed itself to a quiet beach off on the flank, formed up into column, then, with the marines in the advance, stormed the protecting forts, one, two, three. After the enemy gunners—usually heathen of various hues and origins—had been successfully punctured with cutlass and bayonet, an added fillip was sometimes given to the expedition by turning the captured guns on the town or city they were supposed to protect.

This done, the commanders totted up the casualties (almost without exception: several hundred heathen dead and wounded; one or two Americans dead, a half dozen or so wounded), and wrote their

official report which almost invariably included the phrase: "Insult to Flag Reveng'd."

Capsulated, this is the story of the storming of Canton's barrier forts in 1856—a particularly successful projection of our 19th Century amphibious theory.

Flag Officer James Armstrong of our Asiatic Squadron thought there was sufficient reason for a punitive landing. As a matter of fact, the incident had pretty thin justification. The British and the Cantonese officials were leading up to the Opium War and the Celestials were understandably having a hard time distinguishing between the British and the Americans. Armstrong sent a sloop-of-war, the *Portsmouth*, up the river to look after our "interests" (consuls, missionaries, and traders). Anchoring at Whampoa Island, her commander, Andrew Hull Foote, sent a force on up to Canton in several small boats, landed them, and established a sort of security force. His landing party was joined by additions from Comdr William Smith's *Levant* and 28 marines from the steam frigate *San Jacinto*. The whole shore establishment was placed under the command of Capt John D. Simms, the *San Jacinto* Marine officer.

About this time, the British attacked the Cantonese governor's palace. Some Americans, without official sanction, went along, planting our flag on Canton's wall next to the British Union Jack. Comdr Foote conceded that this was not a very diplomatic thing to do, and, after conferring with the flag back at Whampoa, decided to withdraw Simm's landing force.

While he was being rowed back from Whampoa to direct the withdrawal, the first barrier fort let go with a round shot and the second fort followed up with some grape and canister. No one was hurt, but Foote turned around and went back to Whampoa.

The next day the squadron prepared to "resent an insult." The *Portsmouth* and *Levant* moved against the offending forts. The *Levant* grounded a good ways out of range, but the *Portsmouth* continued on until she was within 480 yards of the first fort. In the next three hours the *Portsmouth*

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